$2.00 PER YEAR. ESTABLISHED 1878. 10c. SINGLE COPY.

VOL. XVII. CLEVELAND, OHIO, AUGUST 2, 1894. NO. 31

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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RAFT TOWING ON THE LAKES.

As a result of years of complaint on the part of the owners of vessel property on the lakes, Congress ordered an investigation of the subject of raft towing by a board of army engineers, who met at Detroit about the first of this year and took testimony on both sides in regard to the dangers of raft towing in the narrow channels connecting the lakes. The investigation showed to the satisfaction of the engineers that the rafts towed in the lakes and their connecting waters were much too large, and that they were not supplied with a sufficient number of tugs to handle them properly and to prevent them becoming a serious menace to vessel property, both directly, from the danger of collision, and indirectly, through the carrying away by the rafts of buoys placed over shoal places as aids to navigation. The board drew up a bill which was satisfactory to the vessel owners, although not quite all that they might have wished, and submitted it to Congress as a part of their report. The matter was then allowed to remain in the hands of the committee by the Lake Carriers' Association, which was looking out for the interests of the vessel owners, and it was fully expected that the bill which was chiefly designed to restrict the size of rafts through the rivers to a length of 600 feet by 50 feet in width, and to be under adequate control at all times, would pass as recommended by the Board of United States Engineers. But it seems that some active lobbying has been done on the quiet, and the bill has passed both houses of Congress, with some Senate amendments to which the House has not yet agreed. These Senate amendments have so altered the bill that the size of rafts towing through St. Clair, Maumee and Detroit rivers is restricted (!) to 2,200 feet in length by 200 feet in width, so that a raft of the maximum size allowed by the bill would drive everything else out of the river. The vessel owners have been assured by the chairman of the conference committee that no amendments can be entertained at this late day, but it has been suggested that the conference committee might be induced to neglect to report the bill back at all, and thus keep this one-sided legislation from being enacted into law.

AN EXPENSIVE WRECKING JOB.

The Michigan Wrecking & Salvage Co. has filed a libel upon the steamer Ogemaw, which foundered in 1891 with a cargo of iron ore in Lake Michigan off Burnt Bluff. The underwriters ordered her raised, but it took two years to successfully accomplish this feat, and now it is learned that the entire cost, including towing to Detroit after she was raised, amounts to $57,346; $7,382 was expended in repairs on the upper works, and the total amount, with interest for salvage services, reaches the large sum of $63,324.

The Ogemaw was built by Simon Langell, of St. Clair, Mich., in 1881. She is 333 tons net and four years ago was valued for insurance purposes at $45,000. In the event of the above costs of wrecking being undisputed, it looks as if the Ogemaw ought to have been left where she was as a constructive total loss.

SEAMEN'S WAGES.

The reports of shipping commissioners to the commissioner of navigation for 1893 show that at six principal ports the average wages paid to seamen in the domestic service was $25.30 and in foreign commerce was $21.15. The German Seafaring Association has recently published the pay tables in the German merchant marine. Masters of wooden sailing vessels and large coasting steamers get $40 and of smaller vessels $30; first mates on transatlantic passenger steamers $40; second mates, doctors, stewards and persons on similar steamers, first mates on passenger steamers on European voyages and on large freight steamers, $30; third mates on transatlantic passenger steamers, second mates on passenger steamers on European voyages and large freight steamers, first mates on small freight steamers and sailing vessels, chief cooks and chief stewards, $22.50; fourth mates on transatlantic steamers, $17.50; second class certificated engineers, $40; third class certificated engineers, $25; petty officers, $17.50; stokers, $12.50; able seamen, $11.25; ordinary seamen, $7.50.

TEST OF HARVEYIZED ARMOR PLATE.

In spite of the doubt raised as to the value of the Harvey process for heavy armor, by the recent failures of the Carnegie 17-inch and the Bethlehem 18-inch plates, a second 18-inch Harveyized plate furnished by the Bethlehem Company has successfully withstood the attack of a 12-inch Carpenter shell, passing the government requirement, and entitling the Bethlehem Company to the payment of $400,000 by the United States government for about 600 tons of side armor for the battleship Indiana. It may be remembered that the Carnegie plate which failed on July 12th was penetrated to a depth of 13 inches, while a second shot passed entirely through the plate and backing. The Bethlehem plate which did not meet the requirements of the the test on May 19th was badly cracked. These failures brought out considerable discussion as to the merits of the process for plates of that thickness, but the doubt will evidently be dispelled by the results of the test made on July 20th. The plate then tested weighed about 68,000 pounds and measured about 16 feet long by 7 feet high as it stood on edge. For half of its height the plate was of a uniform thickness of 18 inches, and for the remaining distance tapered off to 8 inches at the lower edge. The plate was bolted to 37½ inches of solid oak backing. A Carpenter shell, weighing 850 pounds, propelled by 249¾ pounds of brown hexagonal powder, was fired at the plate, the shell having a striking velocity of 1,465 feet per second and an impact of 12,666 foot tons. The point of the projectile penetrated the plate a depth of 8 inches, the heat generated being sufficient to weld the point of the shell into the plate, while the remainder of the shell was scattered in every direction. The plate was otherwise uninjured. The second test was made by a similar shell, the powder charge in this case being 397½ pounds, giving the shot a velocity of 1,926 feet per second, and a striking energy of 21,880 foot tons, this being, it is said the most severe test ever given an armor plate. The shot, striking practically in the middle of the plate, and 32 inches from the first shot, penetrated about an inch deeper than the first shot. The base of the projectile fell to the ground, while the point remained welded into the plate. The plate was not cracked in any way.

A WORLD'S FAIR ELECTRIC LAUNCH.

Lord Aberdeen has purchased for his own use on the Ottawa river, Ontario, one of the electric launches which plied on the lagoons at the World's Fair last summer. The price is understood to have been $2,000. The launch is 35 feet 10 inches over all in length, and 31 feet 6 inches on the water line. The beam is 6 feet 2½ inches, and the draught 27 inches. It carries twenty people comfortably and can seat thirty. The lines are as near perfection as they well can be. At whatever rate the launch runs there is practically no wake. The hull of the boat is constructed of white oak frames, with white cedar planking. The inner panelling, decks and other parts are of mahogany. All the woodwork is finished in its natural color, thus giving a very rich appearance. The motor is underneath the flooring of the boat, where it turns the propeller shaft. One man in the bow controls both the motor and the steering. The storage batteries, which can be charged from any trolley or lighting wire, are under the seat. Fully charged, the batteries can give the launch a run of 70 or 80 miles. The ordinary speed is about six miles an hour, but a turn of the lever can put this up as high as ten miles an hour. The cost of running the launch, as far as the electricity is concerned, is only about six cents an hour at the ordinary rate of speed.

NEWS AROUND THE LAKES.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

Wiley M. Egan chartered the steamer R. P. Fitzgerald for corn to Buffalo at 7/8 of a cent.

J. J. Rardon & Co. chartered the steamer Mecosta for corn to Port Huron at 7/8 of a cent.

Capt. William Wilson, formerly of the schooner Cuyahoga, will command the schooner North Cape.

Palmer, Cook & Calbick chartered the steamer Roanoke for wheat to Milwaukee at 3/4 of a cent free.

P. H. Fleming & Co. chartered the steamers City of Berlin and Majestic for corn to Port Huron at 7/8 of a cent.

Capt. John Prindiville chartered the steamer C. H. Green and consort Our Son and Genoa for lumber from Duluth to Chicago.

The barge Iron State arrived Monday with a large cargo of soft coal, which is being unloaded at the O. S. Richardson Fueling Co.'s dock at the foot of North Market street.

J. G. Keith & Co. chartered the steamer Samuel Marshall for wheat to Milwaukee at 3/4 of a cent free, the steamer Iron King and consort Iron Queen for corn to Buffalo at 7/8 of a cent.

The Dunham Towing & Wrecking Co. have their tugs Bob Teed and Robbie Dunham engaged off Michigan trying to locate the company's tug Wm. R. Crowell, which sank last December when going to the wrecked steamer T. W. Wheeler.

O. C. Oleson, ship builder, has been doing repairs for the schooner North Cape, amounting to about $1,100, comprising new knight heads, eighteen new stanchions, new stringers covering board and rail all around to the fore rigging, six new deck beams, new deck forward of the foremast and recalking top sides.

Capt. David M. Cochrane, owner of the excursion steamers John A. Dix and R. J. Jordon, one of the best known vesselmen on the lakes, is reported to be very sick at his home in this city. Capt. Cochrane was manager last season of the World's Fair Steamship Co., but this year has devoted himself to his own boats.

The Independent Tug Line have sent a wrecking expedition to raise the steamer Lucille, sunk near the Lake View water works crib and recently purchased by them. Their marine diver, Joe Lamoureu will go down and place chains under the Lucille and two large scows will be used to raise her and bring her into port.

At Miller Bros.' ship yard the schooner Halsted is in dock for recalking bottom; the schooner A. J. Rodgers was in to have a leak stopped, the steamer Soo City for repairs to her rudder and shoe by Donaldson Bros., shipsmiths; the schooner Marengo is receiving a new fore mast, fore topmast, bowsprit, jibboom and some repairs.

Capt. John Hanson, a well known vessel owner of Chicago, died June 30th at Christiana, Norway, of paralysis of the brain. He went to Norway, accompanied by his daughter, on a visit to his friends. His remains were shipped from Norway and arrived in Chicago Friday morning. His funeral took place Friday afternoon from his late residence, 104 Wells street, in Graceland cemetery. The deceased was born in Norway in 1823, and followed a seafaring life from an early age. He came to Chicago in 1849 and engaged in the vessel business with much success, and was much respected as an honest, honorable man. He left one son and two daughters, grown up, who are left well provided for by their late much lamented father.

Vesselmen at this port are very anxious to know when the Life Saving authorities at Washington intend to provide a crew for service at the life saving station at the mouth of Chicago harbor. At present there are two men only at the station. The regular Chicago life saving crew are stationed at Jackson Park, where a life saving station was erected for display during the World's Fair season. Marine men here consider it nothing less than criminal negligence on the part of the authorities at Washington to leave this great port, where more vessels arrive and depart than at any other port in the world, without a life saving crew. The fearful gale and loss of life off Chicago in May last should certainly have been a sufficient warning to the authorities not to again allow Chicago to be without a crew of life savers in the time of peril.

CLEVELAND. O.

Special Correspondence to The Marine Record.

The schooner C. C. Barnes arrived here on Wednesday with a cargo of steel billets for the American Wire Works. This is the second cargo of steel billets shipped to this port during the week.

Mr. John C. Fitzpatrick, formerly with Mitchell & Co., of this city, but now with the firm of Galvin, Clark & Boland, Buffalo vessel brokers, was married at Buffalo Sunday to Miss Jean Campbell, of California.

Mr. D. C. McIntyre, local manager for the D. & C. Steam Navigation Co., has just returned from a trip to Detroit and Toledo, where he has been checking up the freight offices in his capacity as general freight agent.

The Minch Transit Co., which received articles of incorporation Tuesday at Columbus, is organized for the purpose of operating the new steamer I. W. Nicholas, now nearing completion at the yards of the Cleveland Ship Building Co.

The Cleveland & Buffalo Transit Co. has been receiving such a rush of freight during the last few days that the management was compelled to send 200 tons to Buffalo on the steamer Lora, Tuesday, on her way to the Thousand Islands.

Cleveland vessel owners are pleased to learn that Harvey D. Goulder, Esq., general counsel for the Lake Carriers' Association, has sent a letter to W. F. Carr, Esq., chairman of the bar meeting which had endorsed him for the nomination of Common Pleas Judge, signifying to that gentleman that he was so situated that he felt that he must withdraw his name as a candidate.

A new yacht has been added this week to the growing fleet of Cleveland yachts. She is named the Liberty H. Ware, and was launched Wednesday afternoon from the yard of Murphy & Miller, in the old river bed, where quite a crowd of spectators and friends of the owners had collected to witness the event. She is not supposed to be a speedy boat, but she is a roomy cruising yacht.

Work at the shipyard of the Globe Iron Works Co. on the new steel freight steamer as well as the second passenger boat is not being hurried and from the present outlook neither of these boats will be launched this season. General Manager John F. Pankhurst is away this week on a Lake Superior trip in the North West.

The remains of Joseph E. Mooney, son of Capt. Edward Mooney, master of the steamer Wawatam, who was drowned at Huron Tuesday, were brought here Wednesday morning. Capt. Mooney and his wife arrived shortly after from Marquette on the Wawatam. The funeral will take place this morning at 10 o'clock from St. Patrick's church.

When the question of H. D. Goulder's candidacy for Common Pleas Judge was brought up at the Lake Carriers' meeting on Tuesday, Capt. William S. Mack said that not until Mr. Goulder was endorsed by the bar association was he seriously considered a candidate by members of the association. Capt. Mack said he was instructed by members who were unable to be present to bring the matter formally before the meeting and urge that the officers and members request Mr. Goulder to withdraw from the race and remain with the association. On motion of Capt. Mack a resolution was drafted and adopted asking Mr. Goulder to withdrew his candidacy.

DULUTH AND SUPERIOR.

Special Correspondence to The Marine Record.

The American Steel Barge Co. is about 50,000 tons behind in its ore contracts from Ashland, owing to the strike which has delayed the mines and railroads. For some time recently about half the company's vessels were laid up, but they are getting well started once more.

Up to July 1st the Duluth and Iron Range docks had shipped 654,000 gross tons of ore, and the Duluth, Missabe & Northern 390,000 gross tons. Since that time the two companies have moved about 350,000 tons, giving the Duluth & Iron Range a total to date of 850,000, and the Duluth, Missabe & Northern about 500,000. August is expected to be a big month in ore shipments from both Duluth and Two Harbors.

The coal dock strikes are still on and the men at work are protected by police from personal violence. The coal companies appear to be handling their business with better dispatch than a week or two ago, and claim they are all right. There has been an attempt to settle the strike by arbitration by the retail merchants most interested, but the coal companies follow the lead of Pullman and say they have nothing to arbitrate.

The Christopher Columbus has been earning fairly good money during the season on her Chicago-Milwaukee trips. I saw her reports the other day and she appears to have averaged quite a little better than the figure that will pay expenses. On quite a number of days she has earned over $1,000, and on one day I noticed the earnings were over $2,600. Probably $250 will pay the daily expenses of the vessel.

The mills here made the heaviest run in their history last week, turning out 95,694 bbls. of flour, against 62,481 bbls. in the week preceding, and 39,683 bbls. in the corresponding week of last year. The next heaviest output was made during the week ending June 2d, this year, when the mills produced 95,358 bbls. The output this week will probably not quite equal that of last year, although it will be heavy, as most of the mills are running full time and full eapacity.

The freight situation remains practically unchanged. Nothing has been done during the week at less than 1 3/8c per bushel, Duluth to Buffalo, while 1 1/2c has been the ruling figure. One or two charters were made on private terms. The Kingston rate is nominally 2 1/2c per bushel. Shipments for the week were about 470,000 bushels. Receipts were heavy for this time of year. Stocks will show an increase of 150,000 bushels. The rate on lumber is $1.62 1/2 per 1000 feet for Tonawanda and Chicago, and $1.50 for Ohio ports. The ore rate is steady at 60c per ton.

Wheat stocks at the head of the lakes decreased very slightly the past week, only 3,522 bushels, leaving in store to-day 4,150,000 bushels. This is against a total in store at this time last year of 4,756,000 bushels, and a decrease for the week of 175,000 bushels. Receipts last week were larger than for some time, and, as usual for this season, shipments were small. The flour business keeps up with few weeks in which it doesn't show some life, and last week the production was not far from 80,000 barrels. The mills shipped nearly all they ground, and the railroads shipped as much as 200,000 barrels, in all probability.

The lake freight situation here remains almost unchanged. Wheat has been steady the past week at about 1 1/2 to 1 3/8, a few charters being made on private terms. Wheat to Kingston at 2 1/2. Lumber freights are about as they have been, with little demand just now. The rate is $1.62 1/2 to Chicago and Buffalo, and $1.50 to Ohio ports. Considerable lumber has gone out in the week and there will be large shipments for some little time to come, though manufacturers claim they are selling at a price that will not let them out with any profit. Iron ore rates are steady at 60 cents, and shipments are quite heavy, though the Two Harbors business for the month of July will not equal that of July last year and will fall far behind the month of June, 1894.

Twenty carloads of iron and steel structural material and machinery for use in the construction and equipment of the Lehigh Valley dock arrived at Superior last week. Superintendent Lathrop of the company will arrive Wednesday. The company will have a coal storage plant differing from any now at the head of the lakes. There will be two parabolic buildings each about 250 feet in diameter and 16 feet high, the one to store 150,000 tons of soft coal and the other an equal amount of hard. In order to reload the coal, a tunnel is to be located under each of the large storage structures, into which the coal will flow thence to the cars. The handling capacity of the plant will be limited only by the celerity with which the cars can be unloaded and switched. A most complete arrangement of track scales and buildings will be provided.

DETROIT. MICH.

Special Correspondence to The Marine Record.

The lighthouse supply tender Dahlia is in dry dock. She will be painted and fitted with a new wheel.

The boilers for the McElroy flyer Unique were shipped from Charleston, W. Va., last Saturday. It will be some time yet before the boat can be ready for service.

The steam yacht Vulcan, of this city, has been sold to J. E. Botsford, of Port Huron, for $4,000. She was built at Detroit in 1891, but was afterwards lengthened and given a new triple expansion engine.

A wooden steambarge for the lumber trade will be launched at Wheeler's yard Thursday. She will be named the Minnie E. Kelton. Her dimensions are 185 feet over all, 35 feet beam and 12 feet depth, and will carry 800,000 feet of lumber. The Kelton is owned by Capt. A. Begg and others.

The wreck of the schooner Glad Tidings, which was sunk in collision near Smith's coal dock by the whaleback steamer Pathfinder Sunday morning, lies in thirty-six feet of water, 300 feet from the Canadian bank. A diver will go down and make an examination of the wreck. The body of sailor Gaskin, one of the four men lost on the schooner, was found on Wednesday and it is rsported that another body was found at Amherstburg.

Capt. Alex. Ruelle, formerly owner of the sunken schooner Glad Tidings, will attempt to recover one or more of the bodies of the four men that went down with her. He is also looking after Mrs. Westphal's interests, and has engaged a firm of admiralty lawyers to conduct her case against the Pathfinder. Mrs. Westphal, wife of the drowned captain and owner of the boat, is in a precarious condition.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The popular story is that the North West is now making $10,000 a week, clear of all expenses. She is doing very well at any rate, and that is about all the management is prepared to make public.

A Dunkirk paper has the following: "Mr. J. A. Murphy, of the firm of Murphy Bros., wreckers, of Detroit, arrived in the city on Saturday. Mr. Murphy is here in advance of two of his tugboats which left Detroit at the time he did and are expected to arrive at almost any hour. The object of the visit is to locate and raise

if possible, the steamer Dean Richmond which went down with 18 hands last October, somewhere off this port. At Barcelona Mr. Murphy was told by fishermen that the boat undoubtedly drifted by that place with anchors out, as their nets were torn to pieces and in one of them was found one of the boat's ice-tongs."

Vesselmen's Association at Duluth is making a strong effort to do away with the grievances ship owners have suffered for several years in regard to shortages on grain cargoes. Circular letters are being sent out from Duluth to vessel owners on the lakes requesting that agents be instructed to insist upon the following clause on bills of lading after September 1 next: "It is understood and agreed that the vessel waives all claim for payment for overage in grain cargoes and shall not be responsible for shortages in excess of one-third bushel per bushels carried, the vessel to deliver all grain carried and collect freight upon actual outrun."

The coal shipments for July exceeded the shipments for July last year by 64,602 tons. The following table will show the movement by months for the two seasons:

	1893.	1894.
April	178,040 tons	110,997 tons
May	363,435 "	230,747 "
June	391,580 "	384,663 "
July	254,070 "	318,672 "
Totals	1,187,125 tons	1,045,079 tons

This reduces the falling off to 142,026 tons. For the past few days the movement has been very light and there is, so far, no indication of an immediate improvement. The West has not yet begun to buy its winter supply.

Since the opening of navigation 2,888 canal boats cleared from Buffalo to tidewater and intermediate points. Those boats carried 20,771,159 bushels of grain eastward, as compared to 19,191,304 bushels in 1893, 11,089,697 bushels in 1892, 11,134,300 bushels in 1891 and 20,079,550 bushels in 1890. Thus it will be observed that the season has been the most active in five years, anyway. Of course, boatmen have not earned as much much money owing to the low rate prevailing just now, but they have come to the conclusion to put their heads together and force rates up.

□ There is considerable complaint among vessel men on account of the way cargoes of grain from Detroit are running. In nearly every cargo the amount unloaded is either greater or less than the number of bushels supposed to have been taken on board. It is charged that there is much guesswork at the Detroit elevators. The schooner Rhodes was fifty bushels short on her last load from there, and the steamer Stone was 500 bushels over from Toledo. Both cargoes were handled by one man at the same elevator here. The grain from Toledo, however, is generally running in good shape, and it is thought that the discrepancy in the cargo from the Stone is a mistake in the draft.

AN OLD LAKE CAPTAIN.

The Rochester *Democrat and Chronicle*, in an interesting article on Charlotte, N. Y., gives the following relative to Capt. Estes, once the popular manager of the steamer Niagara, which in the fifties plied between Lewiston and Ogdensburg:

Among the interesting residents of Charlotte to-day is Capt. Estes, of the ferry boat Windsor. This old fresh water tar began the seafaring career at the age of 13 years and has seen a half century of service. The captain has sailed the Great Lakes in every capacity since he was a mere lad and during that time has saved the lives of sixty persons. He refers to saving a human life from a watery grave almost as unconcernedly as an undertaker does the performing of his professional task at the last sad rites.

Capt. Estes is contented with his work and is a thorough American. The only time that he regrets not being a resident at the other side of the lake is when he reflects on the number of big gold medals that would adorn his clothes in recognition of his bravery in risking his own life to save others. Then Capt. Estes "kicks himself" hard, but, old as he is, he would only too willingly again plunge into the water to save a drowning man.

At the age of 17 years he was master of a sailing vessel plying between Clayton and Chicago, and three years later was in command of the steamer Niagara. Since then he has acted in a like capacity on a dozen other lake steamers and has given assistance to 105 disabled vessels. The only case of extreme ungratefulness that the captain mentions is in connection with towing the yacht Brunette into Toronto after she had been storm stayed on the lake for three days. He generously towed the disabled yacht to safe harbor out of a terrible storm, and, as the line was dropped at Toronto, the Canadian crew, with characteristic liberality, rewarded him by promising to "show him the sights" the next time he was in port. Capt. Estes is now making 150 trips daily across the river on the Windsor, being on duty from 6 a. m. until 11 p. m.

THE ALMY WATER TUBE BOILER.

The Cleveland fire boat, fitted this season with the Almy water tube boiler, is giving the best satisfaction possible, and her builder, as well as the officers of the boat, speak in high terms of the steaming efficiency and durability of the boiler.

One of the Almy patent sectional water tube boilers was fitted in the U. S. torpedo boat Stiletto, and the manufacturers report a brisk business in both stationary and marine work,

Any owner or builder that is thinking about purchasing a boiler should write for the illustrated catalogue, which the Almy Water Tube Boiler Co. has just published.

EXPIRATION OF LICENSES.

List of steamers whose inspection certificates expire, during the month of August in Chicago district:

Wilber	August 1	Ariel	" 15
Algie	" 4	Rhoder Emily	" 21
Westorier	" 4	Dutches	" 22
Cyclone	" 2	Favorite	" 25
Gryphon	" 7	Vosaline	" 26
Joseph L. Hurd	" 8	Nashota	" 31
Floe	" 11	Loma	" 31
Saidt Paul	" 14		

WEEKLY SHIPMENTS.

Shipments for the week ended July 30, from Chicago, were: Flour, 4,572 barrels, 55,140 sacks; wheat, 243,739 bushels; corn, 1,134,140 bushels.

Buffalo—Coal shipments for last week were 65,225 tons.

Shipments for the week from Duluth were: Wheat, 470,000 bushels; flour, 120,000 barrels; ore, 36,000 tons; lumber, 5,000,000 feet.

The Bay City lumber shipments last week were 3,925,000 feet, and salt 16,868 barrels.

INLAND LLOYDS SUPPLEMENT.

The August Supplement of the Inland Lloyds shows quite a number of new entries, notably six "whalebacks" all rating A1 and each valued at $80,000. The Harvey H. brown built this year at Wyandotte by the Detroit Dry Dock Co., is given a valuation for insurance purposes of $200,000. The Geo. F. Gould built by the Union Dry Dock Co., at Buffalo is given a valuation of $165,000. And the two new Davidson steamers Madagascar and Nicaragua of 911 and 912 tons respectively are rated A1* at $85,000.

HERRESHOFF ON THE VIGILANT.

Nat Herreshoff, the designer of the Vigilant, says that, while he regretted to say that the Vigilant had made a very poor showing in British waters, he is still confident that she is the faster boat, but has been badly handicapped sailing in foreign waters against a picked crew of sailors, who were decidedly the superior of the Vigilant's in every respect. The Vigilant's canvas was also defective, her mainsail setting badly. He thinks that when she sails in the races in the channel in open water she will prove the faster boat and redeem her former ill luck.

Mr. Gould, Mr. Herreshoff says, is a thorough yachtsman and has sailed his yacht to win, but he has been unlucky, owing to wind and weather experienced during the races previously sailed.

LIGHTKEEPERS APPOINTED.

The secretary of the treasury has appointed Eugene H. Watson, keeper of the light station at Grosse Isle, upper range, and Thomas Cooney, master of the lightship No. 59, at Bar Point, vice Edward Cooney, resigned.

LAKE FREIGHTS.

There has been no change in the freight market during the week, and rates are the same as a month ago. A charter from Chicago to Port Huron at ¾ of a cent for corn, marks the lowest grain rate for the season. The Buffalo rate is still at ⅞ cents. Coal rates are hardening with a fair demand for tonnage and an advance is looked for.

Fifty cents was paid for Milwaukee tonnage at Buffalo, and the soft coal rate was advanced to 40 cents to the head of Lake Superior. Shippers that only paid 30 cents for consorts to load for the head of Lake Superior last week offered 35 cents, and one steamer was placed at 40 cents. Coal is coming forward quite freely at Ohio ports, but the supply at ports east of Cleveland is cut off somewhat on account of the scarcity of cars.

Lumber from Alpena to Ohio ports slumped to $1, the lowest rate ever known.

Canal freights were moderately active and rates steady at 3½ cents on wheat and 3¼ cents on corn to New York.

ITEMS FROM THE LOG BOOK.

The Lockwood immigration bill has been laid over till the next session of Congress; so has the rafting question.

The business of the port of Erie for July was the largest in its history; 222 vessels entered with a tonnage of 228,158.

The steamer R. E. Schuck received twenty tons of ore in her crank pit, breaking the eccentrics, the other day at Duluth, just as she had nearly finished unloading.

The steamer Geo. W. Roby, bound down, was disabled off Cheboygan, Mich., Wednesday afternoon, by the bursting of a steampipe. She is receiving repairs at Duncan City.

The bill directing the Secretary of War to examine the claim of the American Transportation Co. for dredging Fairport harbor passed the House of Representatives yesterday afternoon.

However prosperous the Lake Superior lumbering interests may be, freights have dropped to the lowest point ever known in the history of the Saginaw Valley lumber trade. Shippers were offering during the week but $1 to Ohio ports and $1,25 to Buffalo and Tonawanda.

Edward Grant, of Wiarton, Ont., a sailor on the Aurora, was drowned Monday, in Lake Huron, twenty-five miles from Fort Gratios light. All possible efforts were made to rescue him, but without success. The unfortunate man was twenty-five years old, and unmarried.

Since the opening of navigation on the Erie Canal this season 2,888 boats have carried from Buffalo to tidewater and intermediate points, 20,771,159 bushels of grain, as compared with 19,161,304 bushels in the same period of 1893, 11,089,697 bushels in 1892, 11,134,300 bushels in 1891, and 20,077,550 bushels in 1890.

The Buffalo merchants' exchange met on Monday, and passed resolutions urging that the canal committee, of the constitutional convention make an early visit to that port to investigate the necessity of the improvement of Erie canal, for the commercial supremacy of the state. The exchange appropriated $250 to cover the expenses of the committee during their stay.

Wednesday was the day set for the launch, at Wheeler's shipyard, Bay City, of the steam barge Minnie E. Kelten, built for Capt. A. Begg, who will command her, and other parties for the coal and lumber trade. She is a wooden boat, 185 feet in length over all, with thirty-five feet beam and twelve feet molded depth. She will carry 800,000 feet of lumber on a draft of eleven feet.

A petition is being circulated, signed by many vessel masters, asking that the Union dock at Sault Ste. Marie be purchased by the United States. It is situated at the eastern approach to the lock aad lies between two docks the government now owns. All vessels are obliged to go around any craft that may be discharging cargo at the dock, thus incurring tug hire or running the risk of collisions.

A special from Ottawa under the date of July 28 states that the formal opening of the Canadian Soo canal will probably take place on September 15 the second anniversary of the laying of the first stone in the walls of the lock chamber. All that is waited for now is the installation of some of the machinery to connect the massive turbines in the power house at the east of the lock with the electric plant for the operation of the gates. The machinery is being made at Kingston, Ont.

The steamers Leroy Brooks and Visitor, belonging to Middle Bass and Put-in-Bay residents, which were seized by the Canadian revenue cutter Petrel in the early part of May, near the south end of Pelee Island, on the charge of fishing unlawfully in Canadian waters, together with the officers of the boats and parties on board, have been released from the further entanglements of the Canadian law. The owners of the steamers will have to pay a small fine, and the costs in the cases, which were settled in the courts on Wednesday.

The Dominion minister of marine, says that in the case of the American tug Louise, seized at Point au Pelee, a special inquiry was being made, as the owners had set up that they were not fishing, but collecting fish from the fishermen. With regard to the cases of the Visitor and the Leroy Brooks, seized in Lake Erie with a party of American sportsmen on board, the minister said, the government decided to release them on payment of a fine and costs. It appeared that the party were misled by an officer of the customs department who informed them that the season was open.

Twenty-five million feet of lumber has been shipped from Ashland during the month of July, three-fifths of which has gone to Lake Erie ports. Freight rates for the season have averaged $1.75, but are down as low as $1.60 now, and have even been offered from Ashland to Buffalo as low as $1.50, with a charter made this week at $1.40 Duluth to Toledo. Washburn lumber shipments have exceeded those from Ashland thus far. More lumber has been shipped from Ashland altogether this year, than last year at this time. The lumber rate from Superior is nominally $1.61½, and there is a large amount to be shipped before the close of the season.

RECENT MARITIME TREASURY DECISIONS.

BOND OF INSPECTOR OF HULLS OR BOILERS OF STEAM VESSELS—SECURITY ON.

TREASURY DEPARTMENT, May 11, 1894.

Sir: In reply to your letter of the 5th inst., you are informed that this Department can see no objection to the acceptance of your company as sole security on a bond of an inspector of hulls or boilers of steam vessels.

Under such bond your company would be responsible for all acts of omission or commission of subordinates of such inspectors. The bond is a perpetual one which can not be canceled.

There is inclosed for your files a blank bond for local inspectors. The department deems it inadvisable to send surplus blanks to be used by you as originals, such blanks never being sent out until after the appointment of an officer and are then prepared by the bureau or office to which the officer appointed is to be attached,

Very respectfully, S. WIKE, Acting Secretary.

WM. E. KEYS, ESQ., Secretary American Surety Co.,
160 Broadway, New York.

DRAWBACK ON COAL USED AS FUEL ON AMERICAN STEAM VESSELS.

TREASURY DEPARTMENT, May 28, 1894.

Sir: The Department is in receipt of your letter of the 24th instant, in which you state that parties are claiming the right to enter imported bituminous coal for use as fuel on American vessels propelled by steam, engaged in coastwise or foreign trade, with benefit of drawback, and you request instructions as to the acceptance or rejection of such drawback entries.

While it is held by this Department and the Attorney-General that the omission from the tariff act of 1890 of the provision found in the tariff of 1883 for drawback on bituminous coal so used is equivalent to a repeal, the U.S. Circuit Court for the Northern District of California and the Circuit Court of Appeals for the Ninth Circuit decided in the case of Allen vs. The United States that said drawback law is still in force. This decision was not acquiesced in by the Attorney-General, who informed this Department on the 26 ultimo that a writ of certiorari has been granted on his application by the Supreme Court of the United States.

Pending the decision of the question by the Supreme Court, no drawback can be allowed on bituminous coal used or to be used as fuel on board any vessels, but no objection is perceived to the acceptance by collectors of entries for such drawback, when tendered, provided that the parties making the entries shall file a stipulation to the effect that such entries and all proceeding thereunder shall be considered null and void should said decision of the Circuit Court of Appeals be reversed by the Supreme Court.

The Department is more inclined to allow the filling of such contingent entries, as they would furnish a safeguard against excessive claims in case the decision of the Circuit Court should be sustained.

You are therefore hereby authorized to take action accordingly. Respectfully yours,

CHARLES S. HAMLIN, Acting Secretary,

(6024 f). Collector of Customs, New York.

BILLS OF HEALTH—PORTS OF DEPARTURE.

TREASURY DEPARTMENT, May 25, 1894.

Sir: Referring to your letter dated the 30th of October last, relative to the case of the steamer Dago, I have to state that this Department addressed, under date of November 16 last, the following letter upon the subject to the Attorney-General of the United States:

I have the honor to invite your attention further to the case of the United States vs. The Steamship Dago, tried in the U. S. District Court at Baltimore, Md., as mentioned in the letter from this Department, dated the 13th instant.

It has been the practice at the various ports in the United States to consider the port of departure of a vessel to this country under the quarantine laws as the port from which she first sailed in the foreign country for the purpose of proceeding to the United States, and to treat any other foreign ports visited during the voyage as ports of call.

Section 2 of the act of February 15, 1893, provides that any vessel at any foreign port clearing for any port or place in the United States, be required to obtain from the consular officer of the United States "at the port of departure" a bill of health in duplicate. Article 1 of the regulations established under the act requires masters of vessels "about to depart from any foreign port for a port in the United States" to procure a bill bill of health. This regulation was amended by the Department as follows: "Vessels from foreign ports bound to the United States must procure from the U. S. consul or medical officer a certificate or vise of the bill of health at all intermediate ports or ports of call."

The Dago arrived at Baltimore in water ballast with no passengers. She is stated to have departed from Bristol, England, for the United States, and to have called at Newport, Wales, where the master obtained bills of health, none having been procured at Bristol.

It appears to this department that Bristol should have been held by the court to be the port of departure within the meaning of section 2, above quoted, and that a bill of health from the proper officer there should have been presented to the collector of customs at Baltimore, under the penalty denounced in said section.

In such cases the vessel is entered at the custom house for purposes of the revenue, and the collection of tonnage tax, as from Bristol via. Newport.

The collector of customs reports that the libel was dismissed in the District Court on the ground that as the vessel had no cargo on board when she left Bristol, Newport was the port of departure, and that bills of health from the latter place satisfied the law. The fact that cargo is not brought in such cases does not greatly lessen the danger of infection. and the reasons for the production of bills of health from Bristol seem to apply equally whether the vessel did or did not bring cargo therefrom.

The collector has requested instructions for his guidance as to the course to be pursued in such cases in future, and it is considered desirable that the question involved should be finally settled. This department therefore suggested that the case be carried to a higher court.

The United States petitioned for and was allowed an appeal. Thereupon the U. S. Circuit Court of appeals at Richmond, Va., decided, the 22d instant, as follows:

The act of Congress and the rules and regulations authorized by it were duly posted in the office of the consul at Bristol, England, in the manner required by law. The master of the Dago was aware that a bill of health was required, and procured it at Newport, in Wales. To hold that this action on his part was a compliance with the terms of the law and regulations in such cases made and provided would permit a vessel to clear from an infected foreign port, at which it could not properly obtain such a bill of health, and by stopping on the way at another port, not infected, secure the bill of health that would enable it to enter the ports of the United States, thereby defeating the object had in view when said act of Congress was enacted. It is intended by said legislation to furnish the health and quarantine authorities of this country with information relative to the sanitary condition of the ports of departure of vessels desiring to enter the ports of the United States. It is made the duty of the Secretary of the Treasury, and of the Supervising Surgeon-General of the Marine Hospital Service, to co-operate with and aid State and municipal boards of health in the execution and enforcement of the rules and regulations made by the Secretary of the Treasury to prevent the introduction of contagious or infectious diseases into the United States from foreign countries. And the Secretary of the Treasury is required to make such rules and regulations as are necessary to be observed by vessels at the port of departure and on the voyage, where such vessels sail from any foreign port or place to any port or place in the United States, to secure the best sanitary condition of such vessel, her cargo, passengers and crew, which shall be published and communicated to and enforced by the consular officers of the United States. By the regulations so authorized and promulgated, the United States consul at the port of departure is required to certify that the vessel has complied with the rules made under the act now in question, and that the vessel leaves his port bound for a particular port in the United States. If the vessel so bound for the United States stops at other foreign ports, the consul of the United States at which such calls are made must give a similar certificate or consular vise of the bill of health, as to passengers, their effects, and the cargo taken on the vessel at such ports, and also as to the condition of the vessel, passengers, and crew since it left the port of departure.

The protection intended by the legislation is of great and universal importance, and the provisions of the rules and regulations are not severe, nor are they burdensome, but are made with due regard to the interests of all concerned and are necessary both to the comfort of the individual citizen and the safety of the general public.

We do not think the Dago complied with the requirements of said acts of Congress when she procured the bill of health at Newport, Wales. She should have secured it at Bristol, England, her port of departure. She violated the law and ignored the rules and regulations provided for by it. It follows that the decree of the District Court for the district of Maryland must be reversed, and the cause remanded to said court for such further proceedings as may be proper, and it is so ordered.

Collectors of customs should take measures accordingly for the enforcement of the penalties of $5,000 denounced for failure to observe the law in such cases.

In the case of the Dago, action may be taken by you and by the private persons concerned, as provided for by article 973, Regulations of 1892.

Respectfully yours,

CHARLES S. HAMLIN, Acting Secretary.

Collector of Customs, Baltimore, Md.

VESSELS BUILT IN THE UNITED STATES DURING THE PAST FISCAL YEAR.

The records of the Bureau of Navigation, Treasury Department, show that during the past fiscal year there were built in the United States, and officially numbered, 538 wooden sailing vessels of 37,719 tons, and 308 wooden steam vessels of 44,158 tons. During the same period three iron or steel sailing vessels were built of 41,750 tons, and 45 iron or steel steam vessels of 47,776 tons. These sailing vessels aggregated 541 in number and 42,460 tons in measurement. The steam vessels aggregated 353 in number, and measured 91,934 tons. The entire number of vessels built and numbered was 894, the tonnage being 134,394. Unrigged vessels are not included in the above statement.

LAYING ANOTHER ATLANTIC CABLE.

On July 15 two steamers left Heart's Content, Newfoundland, and began the enormous task of laying a heavy Atlantic cable along the bottom of the ocean from the new to the old country. The steamer Britannia took the shore end of the cable and the Scotia took the deep sea end and steamed eastward in the direction of Valentia. The cable is said to be the heaviest ever laid and it contains 650 pounds of copper per sea mile, to which must be added the heavy insulating material necessary for so great a diameter of copper. On account of its great weight a maximum speed of transmission can be obtained. On the 19th inst. the Scotia was paying out cable at a depth of 2,400 fathoms, or 14,400 feet. In holding back the cable, while being paid out at this immense depth of water, a strain of 2¼ tons was incurred and at the speed it was then running it required a brake pressure to absorb 124 horse power.

The Anglo-American Telegraph Co. already operates five Atlantic cables and the one now being laid will be the fifth. The first was laid in 1869, from St. Pierre, Miquelon, to Brest, in France. The second was laid in 1873, from St. Johns to Valentia; the third in 1874 and the fourth in 1880, between Valentia, Ireland and St. Johns. The total length of this cable will be 1,850 knots, and up to noon July 25th 1,400 knots had been laid. On the 27th the final splice was put in, completing the entire work in twelve days.

THE MADAGASCAR LAUNCHED.

The wooden steamer Madagascar, the 64th vessel, including sail and steam, built by Capt. James Davidson, of Bay City, Mich,, was successfully launched on Saturday afternoon. This closes all the work Capt. Davidson has on hand, although he may build one or two boats on speculation during the winter. The Madagascar is 257 feet long, 37 feet beam and 14 feet depth of hold, and will cost about $100,000. She is built primarily for the lumber trade, and will carry 1,300,000 feet. When in the grain trade she will carry through the Welland canal 65,000 bushels of wheat. The Madgascar and the Nicaragua, recently launched by Capt. Davidson, will go into service about the same time. The builder will manage both vessels until a purchaser is found for them.

LET WELL ENOUGH ALONE.

WM. W. BATES.

Since the time when wolves paid regard to clothing and angelic fashions caught the fancy of Satanic circles things have not been always what they seem. Thus it is that American (?) interest is ever foremost in foreign thought, and most of us feel so flattered by every trap into which our feet are conjured that few desire release. The British people have always a goodness to give away, and a special blessing for their "kin beyond the sea." It is thus that free trade theories are offered the world for less than dirt, and that gold monometallism, free ships and no flag at sea have been thrust upon the people of the United States. And Canada is nothing if not British. The River St. Lawrence has been the stock in trade of all Canuckdom ever since the battle of Quebec. From the ramparts of this antiquity it is imagined the Yankee of the Northwest can overlook the world and see nothing that he would exchange for its free navigation.

The ruler who offered his kingdom for a horse would have made a grand Canadian and done honor to the presidency of the City Council of Toronto at the present day. If any one doubts the moral of these comments let him read the following well-laid plan for picking melons from the patch of Brother Jonathan:

"TORONTO, ONT., July 17.—The City Conncil to-night decided to call a conference representing the shipping and commercial interests of the Western States and Canada to urge upon the Dominion government the necessity for deepening the St. Lawrence canals and other waterways so as to enable ocean-going vessels to reach Chicago and other upper lake ports and transport grain cargoes to the old country without breaking bulk. It is expected the conference will be held at Toronto during the coming autumn."

It is to be hoped that the "shipping and commercial interests of the Western States" will let the Toronto conference severely alone. The navigation of the St. Lawrence River route has only to be sufficiently improved to make it possible for British ocean-going steamers to reach Chicago and Duluth, to transfer to the British flag the carriage of the grain and provisions to British markets that now find their way by American lake vessels and canal or rail to New York and other Atlantic ports from the Northwest. Our markets and elevators, our shippers and exporting capital, are already in the control of our rivals. The missing link is the British flag. Our people now possess the carrying trade by lake by virtue of two reasons: First, the protection by domestic traffic; and, second, the lack of deep water by the St. Lawrence to the ocean. The free ship bill now on the house calendar is intended to sweep away, ultimately, the first; the conference called at Toronto looks to removing the second. In both cases our own people are to be the dupes of foreign sharpers. To "urge upon the Dominion government" the advent of the British flag to the export traffic of the lakes is just such a fool movement as the passage of a free ship bill, and as the acceptance of "maritime reciprocity" was in 1815-28, under which the British flag now carries 70 per cent. of our ocean commerce. It should be in order to hold and to resume where possible rather than to relinquish anywhere the employment of American shipping. We are already overtaxed in cutting wood for British trade and carrying water for Bitish navigation. Our friends over the line, please give us a rest!

MARITIME LAW.

WINNETT et al. v. STEAMSHIP DELAWARE.

U. S. District Court, Eastern District of New York.

COLLISION—STEAM VESSELS CROSSING—DUTY OF PRIVILEGED VESSEL TO MAINTAIN SPEED. Where a tug, having an approaching steamer on her port hand, was in a situation where her pilot was justified in supposing that the steamship would go under his stern or stop: Held, that the tug was justified in keeping on without stopping, notwithstanding the near approach of the steamship.

Benedict, District Judge. May 9, 1894.

BELL v. FERRY BOAT FORT LEE AND TWO TUGS.

U. S. District Court, Eastern District of New York.

1. COLLISION FOG—ANCHORED TOW—DUTY OF VESSELS IN TOW TO SIGNAL—COLLISION. A steam vessel in a fog must proceed at a speed which will render it possible to avoid collision by reversing within the distance at which another object can be seen.

2. A canal boat, one of a fleet of some twenty-five boats in tow of two tugs, made no signal of any kind after her tow had come to anchor in a fog. She was run into by a ferry boat crossing the river in a fog. Held, that under Collision Rule 15 the canal boat was in fault for sounding no signal in the fog.

3. Two tow boats anchored their tow in a fog in a proper place and rang their bells continuously. Both were attached by hawsers to the forward part of the tow and the detachment of either of them, in order to signal from the rear of the tow, might have been attended with danger to the tow. Held, that the tow boats were not in fault for not going back to signal from the end of the tow.

Benedict, District Judge. June 6, 1894.

JONSON ENGINEERING & FOUNDRY CO. v. STEAM YACHT PARADOX.

U. S. District Court, Southern District of New York.

MARITIME LIENS—SUPPLIES—BUILDING CONTRACT—MACHINERY FOR STEAM VESSELS. When a vessel is employed for the purpose for which she is designed, then she is "built" and not till then. Hence, where libelants constructed and supplied machinery for the purpose of completing a new hull as an experimental steam yacht: Held, that the contract for such machinery was a maritime contract, and could not be enforced in an admiralty court.

Brown, District Judge.

The libelant furnished machinery to the yacht Paradox. If the supply of machinery is to be deemed a part of the "building" of the vessel, the contract, by the settled law of this country, is not a maritime contract, and cannot be enforced in this court. Though the state law gives a lien for building a vessel, the lien can be enforced in the state courts.

The Paradox was designed and built for the purpose of experimenting with a system of water-jet propulsion, patented by J. S. Morton.

The libelant company, and its immediate predecessor, contracted to put in the propelling machinery. The original contract was made with the preceding company before the boat was launched, and the libelant, the succeeding company, took to and finished what the former left undone. The evidence leaves no doubt that all the machinery was contracted for and supplied for the purpose of completing the construction of the vessel as an experimental yacht, in accordance with the original design. The libelant's officers understood this from the beginning. After the hull, constructed by other persons, was sufficiently advanced, it was launched, towed to the libelant's yard, and the machinery there put in by the libelant company, and by the preceding company, with changes from time to time in the course of construction so as to make the machinery as efficient as possible. In the case of The General Cass, Brown's Adm., 334, Longyear, J., says: "The true criterion by which to determine whether any water craft, or vessel, is subject to admiralty jurisdiction, is the business or employment for which it is intended, or is susceptible of being used, or in which it is actually engaged, rather than its size, form, capacity or means of propulsion."

When the vessel is completed for the purpose intended, then the vessel is "built," and not till then, whether it be a steamer, a sailing vessel, a barge, a scow or a mere float designed to support and transport a bath house (Bath No. 13, 61 Fed. Rep.); and whatever is supplied to such a vessel for the purpose of making it what it was intended to be, and to enable it to enter upon the kind of business of navigation intended, is a part of the "building" of the vessel. This is the clear weight of authority. The case seems to me to be entirely within the decision of Roach v. Chapman, 22 How. 129; Inre Clenmont, 32 Fed., 703; The Iosco, Brown's Adm., 495; and Wilson v. Lawrence, 82 N. Y., 409, in which cases all the suggestions and arguments of the libelants seem to me to be met and overruled.

I much regret the necessity of this conclusion in the present case; but it seems unavoidable upon the authorties, and I must, therefore, dismiss the libel, though without costs, as not based upon a maritime contract, and hence not within the jurisdiction of this court.

New York, June 13, 1894.

LOWNESS OF ITALIAN WAGES.

The British Vice-Consul at Acona, in a recent report on the trade of that district, gives an additional instance of the very low wages paid in Italian industrial establishments. At the metallurgical works of Messrs. D. Cattro & Co., a firm giving constant employment to over 200 hands, although wages have increased by about 10 per cent, in the last three years, the average rates paid per day of 10½ hours are—to boiler makers,3s. 2d.; iron founders, 2s. 11d.; riveters, 2s. 11d.; turners, 3s. 2d. The works are being enlarged, and accommodation will be provided for bulding steamships of any size or tonnage. Coal, coke, pig iron, and all materials for boilermaking are imported from Great Britain.

BRITISH SHIPPING STATISTICS.

It appears from Lloyds Register that 2,401 iron steamers of a tonnage of 2,769,555 tons and 2,063 steel steamers of a tonnage of 4,347,177 tons are classed in the United Kingdom out of a total of 3,132 iron steamers of 3,738,340 tons and 2,716 steel steamers of 5,505,304 tons. Of sailing vessels 1,109 iron ships of 1,416,107 tons and 464 steel ships of 857,591 tons are classed in the United Kingdom; and of wooden ships, including composite vessels, 659 of a tonnage of 119,486 tons are also classed. The total number of vessels classed in the book for the present year is 30,721 with a total tonnage of 24,569,496 tons. This compared with last year's book, which has 32,010 vessels of a total tonnage of 24,258,375 tons, shows a decrease in number of vessels, but an increase in the total tonnage.

TRACTION RESISTANCE.

The resistance of canal boats to traction has been investigated for the Ministry of Public Works of France by M. de Mas, the account of the experiments being given in a two-volume report issued recently by the Ministry. It was found that at a speed of 3.28 feet a second the resistance of the 70 odd types of barges ranged anywhere from three to eight pounds per square foot of immersed section. If the resistance at a speed of 5 feet a second with a draft of 3.28 feet (1 meter) is called unity, the resistance with a depth of 4.27 feet (1.3 meters) becomes 1.13, and with a draft of 5.25 feet (1.6 meters) becomes 1.27. That is to say, the resistance does increase with the displacement of the boat, but more slowly. Another fact found out was that resistance may be much reduced by using smooth surfaces below the water line, the total resistance of a wooden barge being reduced from 782 to 551 pounds by covering the sides with oilcloth. The length of the boat was found to have little influence on the traction when the speed was 5 feet or more a second, but the form of bow and stern was shown to be important, a spoon-shaped bow giving the best results.

AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation: A second bearing of the Sun may be taken at sunset by reversing the bearings to read west instead of east, as, for example, N. E. by E. for a sunrise bearing would read N. W. by W. for a sunset, or E. 30° N. to W. 30° N.

LAKE ERIE AND S. END LAKE MICHIGAN. LAT. 42° N.

Sunrise.	Bearing (degrees).	Bearing (points).
Aug. 5	E. 23° N.	NE. by E. ⅞ E.
Aug. 9	E. 21° N.	E. by N. ⅞ N.

LAKE ONT., S. END HURON AND CENTER LAKE MICHIGAN LAT. 44° N.

Sunrise.	Bearing (degrees).	Bearing (points).
Aug. 5	E. 24° N.	NE. by E. ⅞ E.
Aug. 9	E. 22° N.	E. N. E.

N. END LAKES HURON AND MICH. LAT. 46° N.

Sunrise.	Bearing (degrees).	Bearing (points).
Aug. 5	E. 25° N.	NE. by E. ¾ E.
Aug. 9	E. 23° N.	E. N. E.

LAKE SUPERIOR. LAT. 48° N.

Sunrise.	Bearing (degrees).	Bearing (points).
Aug. 5	E. 26° N.	NE. by E. ¾ E.
Aug. 9	E. 24° N.	NE. by E. ⅞ E.

With a compass correct magnetic, the difference between the observed and true bearing will be the variation for the locality. If there is any deviation on the course the vessel is heading at the time of taking the bearing the result after the variation is applied will be the amount of deviation on that course.

NORTH ATLANTIC DERELICTS.

In the July pilot chart of the North Atlantic Ocean, issued by the Hydrographic Branch of the Navy Department at Washington, there appears some further particulars of the chequered career of the Fannie E. Wolston. This craft was abandoned off Cape Hatteras on the 15th of October, 1891, and she has in the unexampled interval of 980 days kept afloat and made a circular tour of the western half of the Atlantic. At first she kept on a fairly easterly course into mid-ocean, reaching latitude 35° N. and 39° W. by 13th of June, 1892, when a current setting southward caught her, carrying her down to 31° N., 40° W. Thence drifting on a very erratic track towards the northwest she was sighted on the 14th of October, 1892, just a year after her abandonment, in 35° N., 38° W. By the following Christmas her position was much farther east, almost at the point where she had been seen at midsummer. The southerly set again got hold of her and by the 18th of May, 1893, she was in 25° N., 45° W. From this position she went off on a west-north-westerly track, and after a two years journey she was not far south of Bermuda on the 30th of October. Since then she has been frequently seen traveling very slowly down to the neighborhood of the Bahamas, where she ran into a northerly set outside the main current of the Gulf stream. Time after time word has been received that the Fannie E. Wolston was still keeping on her course and on the 6th of June last she was passed in 36° N., 71° W., about 180 miles due east of the spot at which her crew left her 980 days before. The actual distance covered on this singular drift is probably not less than 8,000 miles, and from all appearance the interesting old wreck is now going over her first easterly track again. The previous derelict record is believed to have been held by the schooner Wyer G. Sargent, which was seen at intervals during 615 days, the distance traveled being estimated at 5,500 miles. Although there have been several instances of abandoned ships floating for over 100 days, very few have reached 500, while the average duration of derelict existence seems to be about 30 days. The pilot chart for July is almost clear of derelicts. Only seven reports regarding these floating wrecks have been received during the month, one having been seen twice near the Bay of Biscay, and another twice near the coast of North Carolina, both like most of the others sighted, being in a sinking condition.

IRON AND STEEL PRODUCTION.

The American Iron and Steel Association has received from the manufacturers complete statistics of the production of pig iron, Bessemer steel ingots and Bessemer steel rails in the United States in the first half of 1894; also complete statistics of the stocks of pig iron which were on hand and for sale on the 30th of June last.

The total production of pig iron in the United States in the first half of 1894 was 2,717,983 gross tons, against 2,361,584 tons in the second half of 1893, an increase of 156,399 tons. As compared with the first half of 1893, however, the production in the first half of 1894 shows a great decline, the figures for the first half of 1893 being 4,562,918 tons, or 1,844,935 tons more than the production in the first half of 1894.

The production of pig iron in the last twelve months, from July 1, 1893, to July 1, 1894, was $5,279,567 gross tons. In 1892 the production was 9,157,000 tons. Not since the dull year of 1885 have we made as little pig iron in one year as in the last twelve months.

Four States, which made pig iron in the first half of 1893, made no pig iron in the first half of 1894—Massachusetts, North Carolina, Indiana and Minnesota. Five other States show only a nominal production of pig iron in the first half of 1894—Connecticut, Maryland, Texas, Missouri and Oregon.

The number of furnaces which were in the blast on the 30th of June, 1894, was 108 and the number out of blast was 408. At no time in the modern history of the American iron trade have so few furnaces been in blast as on the 30th of June last.

Of the 517,036 tons of unsold pig iron which were under the control of the makers on June 30th, 229,705 tons were charcoal pig iron. Another significant fact, which is shown, is the almost total absence of unsold stock of pig iron on the 30th of June in the producing districts of Allegheny county and the Shenango Valley, Pennsylvania, and the Mahoning Valley, Ohio.

The following gives the production of Bessemer steel ingots in the first half of 1894. In the figures for the periods mentioned are included the production of Bessemer steel by the Clapp-Griffiths Works and Robert-Bessemer Works. Pennsylvania, 1,129,559; Illinois, 252,080; Ohio, 171,048; other States, 114,767; total, 1,667,454.

The following gives the production of Bessemer steel rails of all weights and sections, including street rails, in the first half of 1894. In this statement we do not include street and other Bessemer rails which were rolled from purchased blooms: Pennsylvania, 284,061 gross tons; Illinois, 95,955 do; other States, 19,388; total 399,404.

The great decline in the production of both Bessemer steel ingots and rails in the twelve months beginning with July 1, 1893, is shown by a comparison of this production with that of the first six months of 1893. In these six months we produced 2,092,057 gross tons of ingots and 704,240 gross tons of rails; in the last twelve months we produced 2,791,083 tons of ingots and 731,517 tons of rails. In no year since 1879 have we made so few steel rails as in the last twelve months.

THE MARINE RECORD

ESTABLISHED 1878.

PUBLISHED EVERY THURSDAY, AT 144 SUPERIOR ST., (LEADER BUILDING), CLEVELAND, O.

IRVING B. SMITH, CAPT. JOHN SWAINSON, } . . . PROPRIETORS

BRANCH OFFICE:

CHICAGO, ILL., ... 179 LaSalle Ave.

THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, . . . $2 00
One copy, one year, to foreign countries, . . $3 00
Invariably in advance.

ADVERTISING.

Rates given on application.

Entered at Cleveland Post Office as Second-class Mail Matter.

CLEVELAND, O., AUG. 2, 1894.

FLUCTUATIONS OF LAKE LEVELS.

Now that the hydrographic department of the U. S. navy has undertaken to assist the work of the Weather Bureau in determining or rather learning something regarding the physical geography of the great lakes, it would be interesting for that department to inquire into the causes which brings about the sudden fluctuations of lake levels so frequently noticed under certain atmospheric conditions on those sheets of water.

We have heretofore recorded some apparently singular movements of the lake surfaces, yet we are not aware that any theory has been advanced to explain the reason of these sudden fluctuations. So far back as 1789 an observer at Grand Portage, on the north shore of Lake Superior, opposite Isle Royale, recorded a sudden fall of the water equal to four feet, the lake level afterwards, vibrating for several hours. Whitney & Foster's geological report of the upper peninsula of Michigan also shows that in 1834 and in 1842 the level at Sault Ste. Marie suddenly fell two and one-half feet during a calm, still day, nor was there any immediate change of weather or temperature preceding or following this strange action of the surface. Lake Michigan records show in one instance a rise of six feet in half or three-quarters of an hour, and in the memoirs of the New York Literary and Philosophical Society we find an instance where a huge wave, nine feet high, rolled away inshore and done considerable damage to property.

Quite a number of instances are on record where these fluctuations have occurred, and it would now be in order for an investigation to be held, whereby we might learn the causes for this singular rise and fall.

A FLOATING SANITARIUM.

The city of Boston, Mass., or more properly speaking the prominent citizens of that port, have fitted up a floating sanitarium, designed to carry on short trips in the bay, about three hundred women and children. It is hoped to make several trips during the summer, as the first will no doubt demonstrate the good to be done in rescuing sick babies from the perils of the heated season. The number of infant deaths in Boston last week was sixty-nine.

The great need of such a hospital was brought before the public by the Boston *Herald,* which published last summer an article on the subject. This was widely copied by other papers all over the state, and in spite of the hard times contributions for the support of the hospital were immediately received by the committee in charge of the project. Fresh air camps for sickly and poor children, country places where the little things can breathe pure air are now well-founded institutions in many states, but the idea of using the protected waters on the Great Lakes for temporary sanitariums has not been carried out to the extent that it perhaps should have been. Each port of any size might easily furnish a barge with rough seating conveniences, and the owners of tug lines would not charge an exorbitant price for towing the small ark around during a few hours each day that it was considered desirable to give the little ones an outing.

There are many juvenile institutions, shore charities, and convalescent homes whose inmates would hail with joy the red letter day that announced their invitation to take a free lake ride, nor do we know of anything that would do such people so much good as an easy going jog through the water during the heated term of the season. Some diffidence may be expressed in certain quarters relative to this project chiefly from the standpoint of fear that some little unfortunate might get overboard, but with a couple of good attendants the best possible order could be maintained, or, as a preventative, a low netting might be placed around the bulwarks, still, even in the event of a youngster tumbling over the side, the slow speed and a prompt attention to signals between tug and barge, besides other precautions which might be taken, would render a fatality almost impossible and give a large number of poor persons an incalculable amount of benefit.

DETROIT RIVER SHOAL.

It is of course a wise ruling that permits, or demands rather, government appropriations to be used solely for the specific purposes for which the grants have been made by Congress. The conservancy and improvements of navigable waters coming under the head of rivers and harbors is in the hands of the Corps of Engineers U. S. Army but it should be clearly understood that it is the province of district engineers to carry out the executive work in the proper distribution of the funds voted by Congress and not as so many imagine, to recommend, project and perform work however much they may be technicallycertain the commerce and shipping of a locality stands in need.

Of course the United States Engineers placed in charge of maritime districts submit an annual report to the Chief of Engineers and only in such a document perhaps might certain palpable needs be pointed out, but only this at the solicitation of interested citizens and the general needs of commerce. These annual reports, however, are not taken up with original statements emanating from the engineer officer relative to what may or may not be desirable improvements in his district unless requested to do so by the Chief of Engineers, who is usually notified by Congress of its desire to learn more fully the particular requirements of the project and other matters involved in the undertaking.

The foregoing is preliminary to the oft asked question, Why does the officer in charge of the district permit an easily dredged shoal to impede navigation in the Detroit River? The query is easily answered, however, when it is remembered that the officers of the Corps of Engineers may not take the initiative in personally suggesting the means for expending the people's money, and it is almost beyond question but that the rules of the service prohibit the reaching out of the officer after new projects, or even suggesting alterations and additions to public works without the consent of the Chief of Engineers. Certain it is however, that the annual reports of district engineers are never loaded down with verbiage propounding the visionary schemes of perhaps interested capitalists or others engaged in pursuits which if such changes were carried out, would tend to give them commercial advantages over competitors, nor are the Engineer's personal views aired to any extent in his report to the Chief of the department. The particular obstruction to commerce lying off Second and Third streets, Detroit, is to the best of our knowledge an accretive shoal, which, if not dredged away at an early date will hamper shipping seeking berths in that centrally located part of the city, yet, notwithstanding occasional protests by vessel men, there has been no direct effort made to call the attention of the proper authorities to the obstruction, with a view to its being dredged away. Senator McMillan, of Michigan, has rendered excellent service and given invaluable assistance to various projects having in view the facilitation of lake commerce. Other Senators and Representatives have also come gallantly to the fore, time after time, in advocating the conservancy and improvement of lake channels, yet, the removal of this shoal abreast of Detroit would perhaps be earlier accomplished if a Michigan legislator would take hold of the matter in a thorough going, earnest manner and bring the subject to an issue during the present session of Congress. The way to have this shoal cleared away is to have it dredged. To do this Congress should be asked to move in the matter, then the district engineer, acting under instructions from headquarters, would take due care of the rest of the work.

SHORT PROVISION MONEY.

Judge Wales, in the U. S. Circuit Court, at Wilmington, Del., has handed down an important decision relative to the provisioning of a vessel on a long cruise. On April 22, 1893, the American ship Ivy sailed from Nancouver, B. C., for Wilmington, with a crew of 17 men. The trip lasted 128 days, which necessitated cutting down of the provisions of the sailors. When the vessel arrived at her destination the sailors brought suit against the master of the ship to recover extra wages due them on account of the reductions in the allowance of provisions. Judge Wales awarded the sailors $971, to be divided among them. The decision is in consonance with the English laws, and undoubtedly applies to American vessels as well when the crew sign articles to be supplied with a certain scale of provisions throughout the voyage. There is, however, no adequate compensation which seamen could receive for weeks of starvation on short diet, and the above will no doubt go far in inducing masters to provision their vessels so that in the event of a protracted voyage no one need be kept on short rations.

BIG OCEAN TOWBOAT.

The largest ocean towboat in this country was recently launched from John Dialogue & Sons' yard, Camden, N. J. She is named the Nottingham, and will be commanded by Capt. Henry Lewis, formerly master of the Honey Brook, another of the New Jersey Central Railroad Co.'s ocean tugs. M. S. Hutchinson will be the chief engineer, and the tug will carry a crew of fifteen men. She will be used for towing coal barges from Port Johnson to Boston and other ports along the New England coast. Her hull and houses are of steel and she has a steam windlass, is lighted by electricity and has a powerful flash light, located on the top of the pilot house. All of her pumps are independent of the main engine. Her dimensions are: Length of keel, 128 feet 6 inches, 150 feet over all; beam, 27 feet 4 inches; depth, 17 feet 3 inches. The engines are of the triple-expansion type, having three cylinders of 16x24 and 41x30 inch stroke, and of about one thousand horse-power. She has capacity for carrying 175 tons of coal under deck. This large tug is expected to arrive at Boston about August 1, with a number of barges in tow.

FAST STEAMING.

The official trial of H. M. S. Ferret, built by Messrs. Laird Brothers, of Birkenhead, took place on the Clyde on July the 10th.

The following tables give the results as recorded for the runs on the mile and for the three hours' continuous steaming, and the regularity of the performance throughout is especially worthy of notice:

SIX RUNS ON MEASURED MILE.

Miles.	Steam.	Vacuum	Revs.	Ind. H.P.	Speed in knots	Means.	Second means.	
1	170	25.2	351.0	4127	26.866	—	—	
2	168	25.0	356.9	4375	27.170	27.018	27. 78	
3	173	24.8	363.3	4542	27.506	27.338	27.581	27.612
4	175	24.8	369 6	4671	28.125	27.825	27.820	
5	172	24.8	364.1	4656	27.506	27.816	27.871	
6	175	24.5	373.2	4672	28.346	27.926	—	
Means	172 17	24.85	363.0	4507	—	—	—	27.612

SIX HALF-HOURS.

Half-hours.	Steam.	Vacuum.	Revs.	Indicated horse-power.			Speed.
				Starb'd.	Port.	Total.	
1	173	25.0	350.1	2184	2137	4321	Mean speed of ship, 27.51 knots.
2	175	24.75	362.3	2367	2269	4636	
3	170	24.75	365.1	2411	2399	4810	
4	171	24.5	362.4	2304	2204	4508	
5	161	24.75	361.0	2222	2112	4334	
6	163	24.75	359.5	2189	2145	4334	
Means.	169	24.75	360.07	2279.5	2211	4490.5	27.51

The three hours' trial was commenced at 10:15 a. m., the vessel having her full normal weight on board, the coal in bunkers being 26 tons, and the average speed for the whole time was found to be 27.51 knots, with 361 revolutions.

After the run, the usual trials as to manœuvring were made. The helm was put from hard over to hard over both ways in less than twelve seconds each at full speed, and the steering was proved to be entirely satisfactory.

There was a remarkable absence of vibration when running at full speed, and no hitch of any kind occurred in the machinery. The speed for the six runs on the measured mile is the highest ever yet recorded by any vessel for her Majesty's Navy on the Admiralty official trial, and seeing that the speed of the engines is only 361 revolutions per minute, there seems no liklihood of there being much difficulty in maintaining this at future times when the vessel is in commission.

THE COST PER TON.

In naval circles much interest has been aroused by a discussion as to the relative cost of British and foreign ironclads, and though calculations made by German experts differ to some extent from those made in England, it is agreed, first, that the British build more cheaply, and, secondly, that the cost of construction at their government dock yards has diminished. Mr. White asserts that while the Royal Sovereign class, of 14,000 tons, cost on an average £775,000, the United States Iowa, of 11,000 tons, cost £900,000, while France pays from £900,000 to a million for a first-class battleship, Italy a million, and Russia £1,100,000. Taking typical ironclads, German authorities give the British expenditure as £60 per ton, American £78 and German and French at from £87 to £90. Then, comparing the present with the past, twenty years ago the Inflexible, which displaces 2,300 tons less than the Royal Sovereign, is slower by four knots an hour and less powerful altogether, cost £812,000, or £40,000 more than the newer ironclad. In all these cases speed of construction is considered an important factor in producing the difference in cost.

The cost per ton of war vessels, according to figures given by Commodore Hichborn, Chief Constructor of the Navy, recently, is about as follows: The Chicago cost $197 per ton, and the British Leander, of about the same size and a little more speed, cost $184; the Charleston

cost $251, and the German Princess Wilhelm, of about the same size and speed, cost $261; the Philadelphia cost $306, the French Cecile, larger, but of about the same speed, cost $259; the Yorktown cost $262, and the English Surprise, very much the same sort of a boat, cost $210; the Baltimore cost $284, and the French Alger cost in a dock yard $278. Mr. Cramp says the price of material for naval ships in this country is about 10 per cent. higher than that for merchant ships on account of the severity of the government tests.

Taking the cost per ton of freight and passenger steamers on the lakes, and the gross tonnage instead of displacement, the measure on which the cost per ton of naval tonnage is based, the cost of lake freight steamers runs from $60 to $80 per ton, and some of the latest built passenger steamers $137.50, up to $271 per ton for a railroad ferry steamer of special build, being of small tonnage and having a very expensive equipment.

REPORT ON THE TRIAL TRIP OF THE U. S. S. MINNEAPOLIS.

The report of the naval board on the recent trial trip of the Minneapolis has been completed and submitted to Secretary Herbert by Commodore Belknap, president of the trial board. According to the report, the least water on the 44-knot course from Cape Porpoise to Cape Ann was 30 fathoms. The preliminary run from Philadelphia to Boston was made by the Minneapolis in 17 hours. On account of the necessary preparations for the trial, the inspection was not thorough and the board recommends a second inspection before preliminary acceptance. The board found some little deficiencies, such as lack of boats, absence of a portion of the cellulose filling and incomplete pumps and furnishings incident to an incomplete ship. On starting her on the trial trip, the vessel's displacement was 7,475 tons. The speed attained after making tidal corrections was 23.73 knots an hour. The performance of the machinery was highly satisfactory. The engines ran smoothly and there was no tendency to heating, excepting the high-pressure cross-head journals of the port and center engine, on which water was freely and constantly used. The boilers performed well under forced draft, and showed no evidence of priming. The collective indicated horse-power of the main engines during the trial run was 20,366, that of all the machinery in use was 20,812.

It would seem that either owing to lack of power or to great reduction of steam by the reducing valve, the requirement that the helm be put hard over from port to starboard in a certain time cannot be fulfilled. So far as could be learned in the absence of complete stores and ordnance the Minneapolis was found to be strong enough to carry her weights. The hull, fittings and machinery are strong and well built and according to the specifications. The board suggests that hereafter no vessel shall have her speed trial until completely fitted in all respects, excepting the armament and interior fittings.

LAKE CARRIERS' MEETING.

The special meeting of the finance committee of the Lake Carriers' Association, called on Tuesday to discuss the question of heavy alleged grain shortages, and the consequent loss to vessels that delivered short quantities of grain, was very largely attended. The matter was talked over at considerable length, and as a result of the consideration of a plan to avoid these shortages, the following resolutions were passed:

"RESOLVED, That it is the sense of this meeting that the recent action of the Vessel Owners and Agents' Association at Duluth is timely and wise in suggesting an addition to the grain bill of lading, by way of rider stamped on bill or otherwise, providing as follows: 'It is understood and agreed that the vessel waives all claim for payment of overage in grain cargoes, and shall not be responsible for shortage in excess of one-third bushel per one thousand bushels carried. The vessel to deliver all grain carried, and collect freight upon actual out-turn.' And it is recommended to the individual members of the association that they instruct their agents at Duluth to insist on such provisions in their bills of lading, and

"*Resolved*, That the secretary be directed to have this action printed on postal cards and mailed to each member of the association."

VISIBLE GRAIN SUPPLY.

The stocks of grain in Chicago elevators last Saturday evening, were 17,362,000 bushels of wheat, 1,526,000 bushels of corn, 135,000 bushels of oats, and 99,000 bushels of rye. Total, 19,122,000 bushels of all kinds of grain, against 21,419,000 bushels a year ago. For the same date the secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada at 57,144,000 bushels of wheat, 3,973,000 bushels of corn, 1,247,000 bushels of oats, 199,000 bushels of rye, and 81,000 bushels of barley. These figures are larger than the corresponding ones a week ago by 3,730,000 in wheat and 325,000 in corn. The visible supply of wheat for the corresponding week a year ago increased 446,000 hushels.

EARLY ICE CRUSHERS.

King Solomon I., as far as the records go, was the first to remark that there was nothing new under the sun. But it is probable that even in this case the old saw is an example of "unconscious cerebration"—else the wisdom of the utterance falls flat. A reporter for the Detroit *Journal* had an interview with Capt. Ed. Bonchard, of Thompson Smith's Son's big raft-towing tug Duncan City, and learned that the big ice crushers of the Straits, St. Ignace and Ste. Marie, with their system of screws fore and aft, are but the result of a haphazard forcing of the Straits in the spring of 1866.

Very early in 1866 the Northern Transit steamers City of Boston and State of Maine, which then formed part of a daily service between Chicago and Ogdens burg, reached the Straits. The ice was heavy, and, although it was broken and floating, it defied the efforts to get through. Finally, one of the captains—Capt. Bonchard thinks it was Capt. Sullivan—had a happy thought, and after some persuasion induced the captain of the other boat to try it, and it worked to a charm. It was to lash the boats together, bows on, one to be pushed into the ice, stern foremost, reversing her screw to crush the ice and push it away, and the other to keep the boats going down the Straits.

The effort was a complete success, and both boats got through in good time without accident. So far as the records go, this was the first time boats were ever used in this way, or that the double ender principle of the ice crushers now used in the Straits was utilized.

NAVAL SECRETARY OF THE LIGHTHOUSE BOARD.

Commander George F. F. Wilde, has been selected as the successor of Capt. Robley D. Evans as naval secretary of the Light-house Board. The detail is one of the best in the service, and its assignment to Commander Wilde may be looked upon in the nature of a compliment to that officer. Commander Wilde will be practically the executive officer of the lighthouse establishment, that being the position held by Capt. Evans. He will enter upon the discharge of his new duties about August 16.

A SHIPBUILDER'S PRESENT.

The Maritime Association of the Port of New York has been presented with a beautiful model of the steel four-masted bark John Ena, by Robert Duncan & Co., Limited, of Port Glassgow, Scotland, the builders of the bark, in recognation of the courtesies extended the principal member of the firm by the Maritime Exchange when on a recent visit to that port. The bark was built in 1892, and is now owned by the San Francisco Shipping Co., who sail her under the Sandwich Island flag. She hails from Honolulu. Her gross tonnage is 2,842, and her net tonnage 2,568. The model is about six feet long, beautifully made of pine and holly. Every detail of the hull, the deck machinery, brass work, cabins etc , is perfect. But one-half section is made, but it has been so placed in a glass case, backed by a mirror, that the appearance of the vessel is perfect.

STAGE OF WATER AT ST. MARY'S FALLS CANAL.

DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Depth of water at the St. Mary's Falls Canal for the week ending Aug. 2, 1894 :

July	26	8 a. m.,	15	feet	1	inches.	8 p. m.,	14	feet	10 inches.
"	27	"	15	"	0	"	"	15	"	0 "
"	28	"	15	"	3	"	"	15	"	3 "
"	29	"	..	"	..	"	"	15	"	2 "
"	30	"	15	"	2	"	"	15	"	2 "
"	31	"	15	"	0	"	"	15	"	1 "
Aug.	1	"	15	"	1	"	"	15	"	2 "
"	2	"	15	"	6	"	"			

ASHTABULA'S IMPORTS.

The official reports of the several dock companies at Ashtabula Horbor of their coal and ore business for the month of July, shows an increase over the business done in July, 1893, which is quite remarkable when it is remembered that business was entirely suspended for one week because of the shovelers' strike. The custom-house books show that during July 240 boats entered the port. This number included every entry and clearance, whether they reported or not. In July, 1893, the official entries numbered 204. The ore receipts for July, 1894, were 341,305 tons, and for July, 1893. 369,-791 tons, a decrease of 28,486 tons. Had it not been for the strike the ore receipts would have considerably exceeded those of last year. The coal shipments during July, 1894, were 109,756 tons, as against 59,210 tons in July, 1893, a gain of 50,546 tons.

The ore receipts so far this season are: April, 2,200 May, 229,836; June, 385,697; July, 341,305; total, 958,938, or nearly a million tons. In 1894 the ore receipts were heaviest early in the season. This year the order promises to be reversed and the belief is warranted that the season will close with a large increase over last season's business at this port.

TO SETTLE LAKE RATES.

Whether the vast volume of lake traffic in flour, provisions and other east-bound merchandise from Chicago, Milwaukee, Duluth and other up-lake ports to the seaboard and foreign countries is to be carried on fixed and stable tariffs or be the spoils of an endless war between the lines will be settled before the present week is out. Three propositions are now before the line managers and the trunk line association. One is for a physical division of the traffic, by which each line will take its fixed portion of freight offered; another is for the continuance of the present combination by which all export rates are named daily by a commissioner, and a third is for the lines to act independently, which means that all will be at war in a fortnight. For several weeks the trunk lines have been engaged in trying to unite upon a physical division, but the differences between the lake lines as to their just share of the traffic may prevent the adoption of the percentage system.

E. J. Henry, western agent of the Lehigh Valley Line, who was appointed export rate agent by the combination when it was organized, has resigned his position. The line agents have united in recommending Edward Walley, formerly foreign freight agent of the Boston and Albany railroad, for the place. Mr. Henry's resignation will force a speedy solution of the question as to the basis upon which the the traffic is to be continued. If a physical division be attempted, it will be necessary to employ a high priced commissioner to fix rates daily. On the other hand, if the existing combination is to be maintained, the position of east-bound commissioner, or export rate agent, will become of the greatest importance, as he will be called upon daily to name rates from lake ports to almost every seaport in Europe.

TO COMMAND THE NEW YORK.

Capt. Robley D. Evans, the present naval secretary of the Light-House Board, who was recently ordered by Secretary Herbert to the command of the New York. when interviewed as to his new detail, said that it was a very great surprise to him, as he yet had two and a half years of shore duty to his credit. Two years ago he was in command of the Bering Sea fleet, which was a most unpleasant duty, and he had hoped to be permitted to serve out his term of shore duty with his wife and children. He certainly had not asked for the command of the New York and to his knowledge the only one who knew of the proposed action was Secretary Herbert himself. The captain, who is one of the youngest of his rank in the service, appreciates the compliment of being ordered to the command of one of the finest ships afloat. Capt. Evans said he went where he was ordered, did what he was ordered and when he had no orders he did what he thought was right under the circumstances. He will leave Washington August 16 and assume command of the New York on August 20. The New York will be the flagship of Admiral Meade.

TO BUILD TORPEDO BOATS.

The naval construction board, under directions from Secretary Herbert, has promptly taken up the design of three torpedo boats which were authorized by the naval appropriation bill which has just become a law. In a discussion of the matter it has been partially agreed that one large boat and two small boats should be built with the $450,000 set aside for the purpose. There was some question as to the speed most desirable, some of the members favoring 28 or 30 knots per hour. The prevailing opinion was that 25 knots would be more effective. The board was in general accord that the Ericsson, now almost ready, represented about the best design of torpedo boat yet produced by any nation for all purposes and it was practically determined to build two of the new boats on her plans with a displacement of about 120 tons.

The third boat will be 220 tons, the same displacement as the successful Havock and Hornet, which have just been added to the British navy. The Havock made 28 knots. There will, however, be a number of improvements in the new boats not contained in the Ericsson or Havock.

THE RIVER AND HARBOR BILL.

The conferees of the river and harbor bill have reached an agreement. The Senate increased the bill about $300,000 and interest upon about $200,000 of its addition, while the House was anxious to bring down the total to the lowest possible figure. Raft towing has received much attention, and the outlook is that all legislation on this subject will be stricken from the bill.

It was also decided on Wednesday to retain the appropriation proposed by Senators Brice and Sherman for the survey of a ship canal.

AN IRISH JURY'S VERDICT.

"Guilty; but we recommend him to mercy, as we have some doubt about his being the man."

ANTARCTIC EXPLORATIONS.

The most important geographical discoveries made in the Antarctic regions since Ross traced a part of Victoria Land's coast and saw its smoking mountains, 52 years ago, have just been reported by an old and well known Norwegian whaler, Capt. Larsen. His discoveries were made the latter part of November and early in December last, on the steam whaler Jason. Later he went north to the Falkland Islands, where he found an opportunity to send home his log for this period. His log was forwarded to Dr. John Murray, the well known Scottish scientist and member of the Challenger expedition, who has just published the extract from the Jason's journal in the Scottish Geographical Magazine. Only a few lines, including the latitude and longtitude attained, are given in the log to each day's events and the narrative is therefore lacking in detail. When Capt. Larsen returns to Europe he will doubtless give a full account of his interesting voyage.

If the reader will refer to a map of the Antarctic regions he will see a large land mass, known as Graham's Land, lying across the Antarctic circle, south of Cape Horn. Except Victoria Land, which lies on the other side of the Antarctic area. Graham's Land is the largest bit of terra firma that has yet been found in south polar waters. It was discovered by John Biscoe in 1831, and a brief allusion to the exploration there is necessary, in order to understand. Biscoe skirted the lofty western coast of Graham's Land for about 200 miles, and, landing on little Adelaide Island, not far from the mainland, he was the first to set foot on shore within the Antarctic circle. No one ever saw any other part of Graham's Land, except Ross, over fifty years ago, and the Scottish and Norwegian whalers, who were there in the season of 1892-93.

Capt. Larsen's achievement, as outlined in the Boston *Herald*, was to steam along a wholly unknown part of the east coast of the great land mass, and when he was finally compelled to turn north again he could still see the lofty summit of the mainland stretching south and east as far as the eye could reach. Dr. John Murray and others believe that, in those days he was skirting a part of the coast of the great Antarctic continent; and, while he was adding to our knowledge of the coast lines around the south pole, he also discovered some volcanoes in a highly active state, showing that plutonic energy, in that part of the world, has not yet died out, and that its activity there is more widely distributed than we had any reason to suppose. The ice conditions greatly favored Capt. Larsen, for he found a comparatively open sea, and was able to advance about 100 miles south of the Antarctic circle. Only the year before the whaler had found the sea packed with ice almost to the extreme northern part of Graham's Land. As they looked south they saw a chain of bergs, towering high above their ships, which effectually barred their progress in that direction. In those very waters Ross had spent almost the entire season of 1842-3, near the north end of Graham's Land, trying in vain to push his way through the ice-encumbered sea and the great chain of bergs. He was not able, however, to advance toward the south until he sailed a long distance east, out of sight of Graham's Land, whose mystery he had hoped to solve. Larsen had a very difficult experience in November and December last. The weather was fine and warm and there was plenty of sunshine and very little fog. The air and sea teemed with animal life, for many birds, whales and seals were seen, and, best of all the white east coast of Graham's Land, rising here and there into lofty peaks, stood out clearly in view. He followed it almost straight to the south until, at its farthest point, he saw it rising to still loftier heights and stretching away to the southeast and east.

From Capt. Larsen's log and from the observations of the whalers at the north end of Graham's Land in the previous season, we are able to get some idea of this terra incognita. According to his log Capt. Larsen steamed along this east coast for 230 miles, the coast line stretching away a little east of south, a high, rocky shore, most of it a few miles west of 60 degrees west longitude from Greenwich. Right at the Antarctic circle is a very high peak, most of which is bare of snow. The shore front is skirted by an ice barrier that runs about five miles out to sea and is from 25 to 60 feet high. The land is covered with an ice cap and glaciers blow down the valley, but in the narrow northern part of the land, they are small and do not produce icebergs over 60 or 70 feet in height. In 1892-93 the whalers saw in the neighboring waters, bergs that were 200 feet or more in height, and their depth below the surface must have been at least 1,400 feet. It is certain that they come from some more southern part of the Antarctic region.

Skirting the shores, Larsen saw numbers of islands and rocks, all volcanic, and mostly basaltic, rising out of the sea almost as perpendicular as the icebergs, and presenting little surface on which snow can rest. He succeeded, however in landing on Seymour Island, and pushed some distance into it, though the walk was most difficult across the deep valleys and over the high rocks. Great numbers of penguins had their nests there, and in the interior he found several dead seals. These penguin rookeries are very curious. They are occupied by countless numbers of the common, black-throated penguins, and the nests are crowded together in square blocks, formed by paths, intersecting one another at right angles. The whalers of the previous year said that these rookeries, viewed through a telescope from the ship's head, had the appearance of hair brushes, the penguins representing the bristles.

It was 80 miles north of the Antarctic circle that Larsen discovered a chain of five little islands extending in a straight line from northwest to southeast. The most northern is about 10 miles from the mainland. Two of these islands are active volcanoes. The captain and his mate fastened on their snowshoes and crossed on the ice to one of the islands. A large volume of smoke poured from both of the volcanoes, but neither of them was ejecting lava or solid matter at the time, though the ice in the neighborhood was strewn with volcanic stones that had recently been hurled out of the craters. There was no snow on these volcanic masses.

On his journey south Capt. Larsen saw many whales and seals. It is well known that the Dundee whalers turned their attention to the Antarctic regions in 1892 in hope of finding the true whalebone whale, which Sir James Ross believed he saw there. The Dundee fleet, however, saw neither this variety nor any sperm whales They saw any number of finners, which were so tame that the ships actually struck them, sometimes, before they would get out of the way. Now and then these enormous creatures, not less that 80 feet in length, jump like a salmon, every portion of their bodies being clear of the water. The hunchback whale, which was found there in great numbers, is another interesting species. The whalers say that neither salmon nor trout fishing can equal the hunchback for sport. Larsen hunted one which, on being harpooned, ran the five lines in the first boat straight out and got free. Four additional harpoons and six rockets were fired into it. It fought a thirteen hours' battle and then escaped, taking with it a good deal of liue, two of the harpoons and all of the rockets. Larsen has seen three other species of whales there, but none of much commercial value, while the seals are desirable, chiefly for their oil.

The most southern point reached by Capt. Larsen was 68° 10′ south latitude. Had he advanced a few miles further it would have been necessary to turn abruptly to the east, for he saw the shore line bend around till it ran almost east and west, and behind it was high land covered with snow. He had followed the coast on the east side of Graham's Land as far as Biscoe had traced it on the west. On the map the reader will find Alexander I. Land, which is due west of the high land seen by Larsen again. Dr. Murray believes that when he turned his ship to go north Alexander I. Land is a part of the west coast of Graham's Land, and that this land mass, which Biscoe and Larsen has proved to widen rapidly toward the south, is only a peninsula of the continent of Antarctica.

It is interesting to consider the geographical significance of Larsen's voyage. Our maps show that all around the antarctic area, in the neighborhood of the south polar circle, bits of land have been discovered. It is noteworthy that not one of these bits of land had been explored in its whole extent. The explorers did not ascertain whether the land they saw was islands or projections from some great land mass. Discoverers have very rarely been able to affect a landing on account of the belt of pack ice or ice floes, often 10 or 20 miles wide that separated them from the shore. There are several excellent reasons why many of the leading geographers and geologists believe that these various lands—Victoria, Graham, Wilkes, Adelie, Claire, Sabrina and Termination lands, and some others—are merely parts of the outer edge of a large continent. To mention here only one of these evidences, the Challenger expedition, sounding in antarctic waters, brought to light material which is regarded as strongly indiating the proximity of a land mass of continental proportions. Ross believed this when he was in the region where Larsen has made his reconnoisance. Ross said that, though the ice prevented him from taking a vessel south, he believed he could have landed and traveled over the continent. Larsen's work adds strength to the theory, for we see Graham's land rapidly widening as its coasts are followed toward Victoria Land.

A great deal of the area within the Antarctic circle may be covered with the sea and still leave room there for a land of considerable extent. It has been observed, when possible to approach the land, that there is much similarity in the geological structure of the apparently detached masses. Dr. Wild, of the Challenger expedition, has remarked that Graham's Land and Victoria Land are remarkable for the height of their mountain ranges, rising from the sea to 7,000 feet in the former and 15,000 in the latter country; and the shores of both are guarded by numerous islands, mostly of volcanic origin.

Dr. Murray points out that the summer excursion of Larsen's little whaler shows what large additions might in a short time be made to our geographical knowledge by a properly equipped expedition provided with steam power. British geographers will be more than ever encouraged, now that the story of Larsen's work has come to them, to redouble their present efforts to induce their government to send out an expedition. The expenditure will hardly be justified unless the proposed expedition be accompanied by scientific men and fitted with all the apparatus of scientific investigation. Such a party and equipment would enrich almost every branch of natural science.

IN DAYS OF OLD.

We observe, says the *Sturgeon Bay Advocate*, that the old schooner Lone Star has changed owners, having been purchased by Capt. John Wilkinson, of Port Huron, Mich., who paid $2,900 for her. The Lone Star was owned by Capt. John L. Gallin, of Racine, during the early seventies, and she coined lots of money for him in those days, as can readily be imagined when the rate on lumber from here to Chicago was $6, $7 and $8 per 1000. In the spring of 1871 Capt. Gallin made a contract with the owners of what is now the Reynolds mill to freight lumber for $6, and in speaking about the matter he told the writer that he made a mistake in accepting such a rate, because he could have done considerable better by the trip. A craft of 300,000 feet capacity would pay for herself in a single season those times, and if no bad luck befell her there was still a handsome margin left for the owner after all the running expenses had been taken out. These were the golden days of lake navigation, the likes of which will probably never again be experienced on the great inland seas.

NOTES.

IN addition to being fitted in the Cunard Company, White Star Company, Hamburg-American, North-German Lloyd, and other large companies, See's Patent Ash Ejector is now being fitted in the United States, German, Dutch, and Austrian navies.

TWO SMALL steam vessels, the William Hengerer, a canal boat of 126 tons, built at Phœnix, N. Y., hailing from Buffalo, and the 15-ton steam yacht Contest, hailing from Chicago, were the only vessels given official numbers in the lake districts during the week ended July 21, 1894.

CAPT. ROBLEY D. EVANS, who has lately been chairman of the Lighthouse Board, at Washington, has been appointed to the command of the cruiser New York, instead of Capt. Kane, of the Brooklyn navy yard, as was intimated. Capt. Kane will take command of the monitor Miantonomoh, vice Capt. Wallace, who will go to Newport to take command of the naval station there. Capt. J. W. Phillip, the first commander of the New York, will become captain of the Boston navy yard.

THE Chicago river tugs have been again selected by the anti-smoke people as the first sufferers in the new anti-smoke crusade. The reform never gets beyond the tugs, but an immense amount of capital is made out of prosecuting tugmen. The excuse of the lastest movement is in the recent experiments with crude petroleum on the tug Blackball. The city smoke inspector claims that the recent test showed that oil can be burned on tugs and he is going to force them to the use of oil by numberless prosecutions and liberal fines.

George L. McGregor, manufacturer of steam boilers, at Nos. 246 and 248 South Clinton street, has just returned to Chicago after a two months' trip to England, Scotland and Ireland. While the object of the trip was chiefly for pleasure and recreation, Mr. McGregor spent some days in looking over the great shipbuilding establishments on the Clyde with the view of investigating their methods of iron working, etc. In these he was greatly disappointed, as he found that in very many ways they were years behind the times as compared with like work in this country. Especially, too, was he impressed with the ultra conservative methods employed in their business transactions.

FEMININE YACHTING VOCABULARY.

The yachtsman's vocabulary is a language in itself, and the landsman often runs afoul of it. He doesn't see why one rope should be called a sheet, another a halyard, a third a downhaul and a fourth a clewline, etc. One yacht owner, says the New York *Tribune*, whose hospitable deck is trodden by many of his friends, has modified his terms to conform with the suggestions or mistakes of his guests who are not expert sailors.

For instance, one "queen of hearts," who had gone below for a drink of water, was asked what she had done with the cup.

"I hung it on the post," she said, innocently.

Every one roared at the idea that she could be so "green" as not to know what the mast was called, but on that yacht the mast is now known as "the post."

A pretty girl from a "fresh water" district is responsible for another nautical word. The strips of canvas used in tying up the sails are called stops. Some one wanted the stops and could not find them for the instant.

"What are you looking for?" asked the young woman.

"I am looking for the stops. They were here a little while ago."

"The stops? Oh, you mean the tapes. They are are under this rug."

And now the sails are bound with "tapes."

Another young woman from an interior state had read enough nautical stories to have caught a few phrases here and there. For one thing, she knew that "hard tack" was a staple article of diet at sea. On a visit to the East this damsel went sailing. She was anxious to learn, and when she heard the man at the wheel say "hard a lee," she asked some questions, and found out what it meant.

A little later the steersman said the yacht was going about. Some of the guests were paying no attention, and seemed in danger of being struck by the boom as it swept over to the other side of the yacht.

"Hard tack! hard tack!" cried out the young woman, excitedly.

All managed to duck their heads in time to escape the spar, if they didn't know what the maiden meant by "hard tack," and another joke was added to the yacht's store of them.

WHAT HE WAS.

Bobby—Papa's the captain of our ship and mamma's the pilot.

His Teacher—And what are you?

Bobby—I'm the compass, I suppose—they're always boxing me.—*Truth.*

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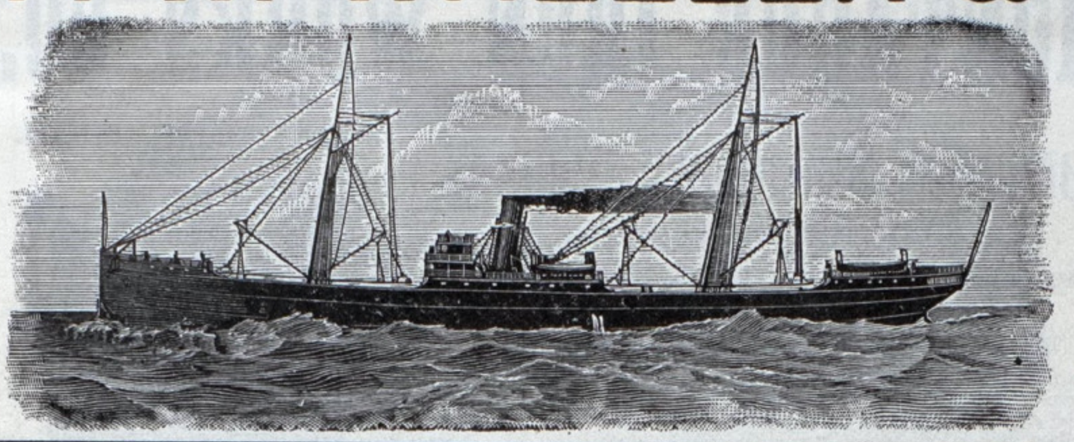

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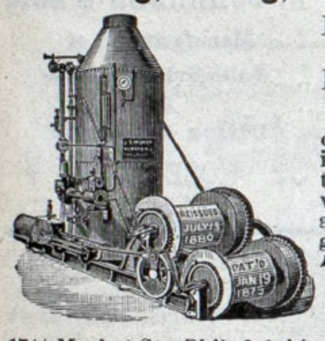

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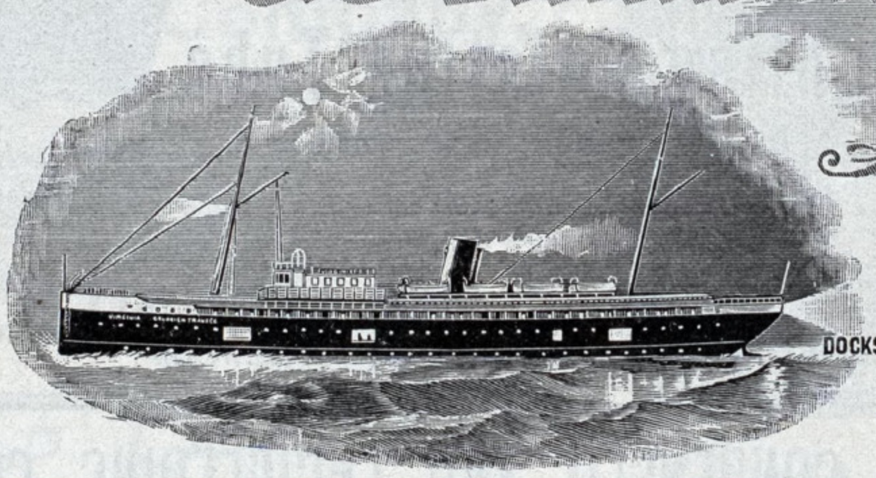

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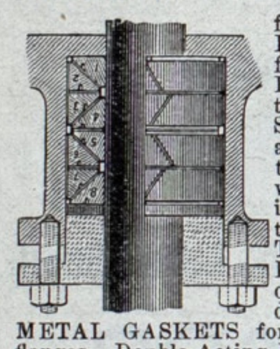

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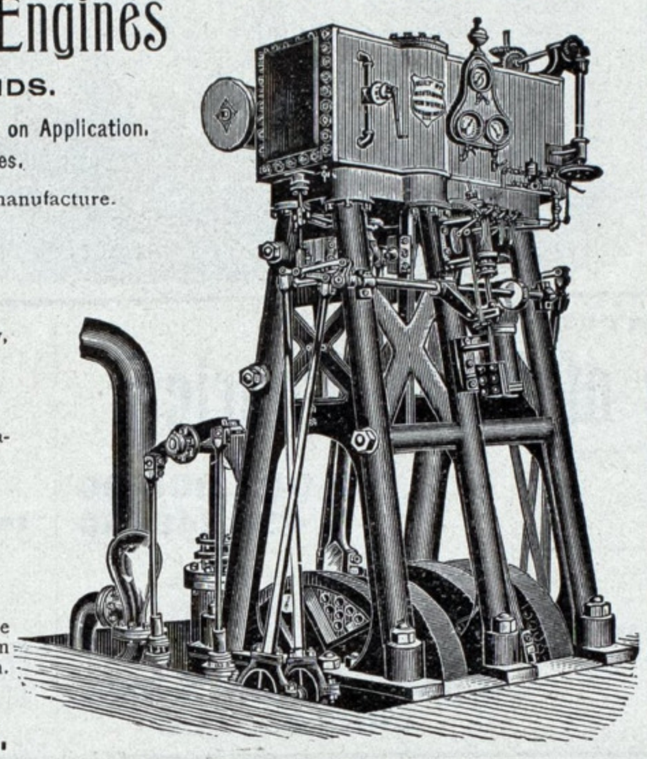

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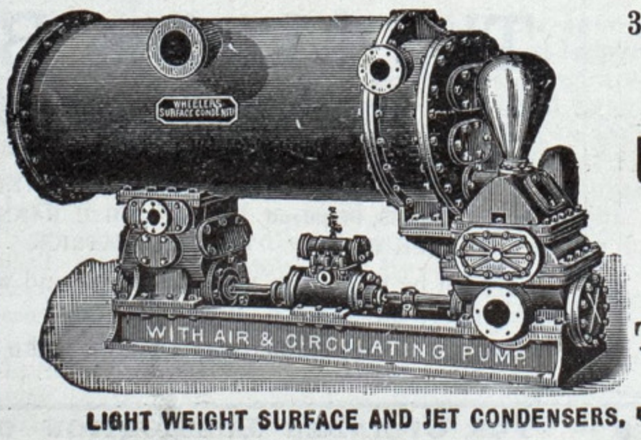

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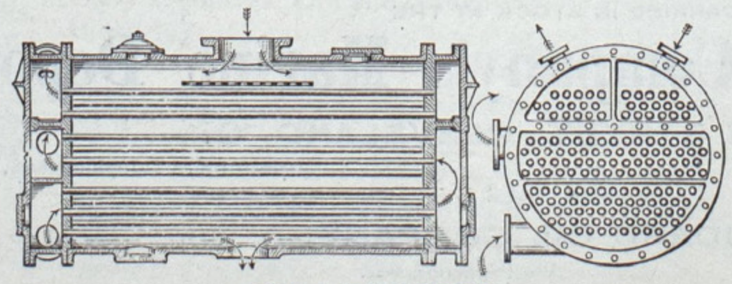

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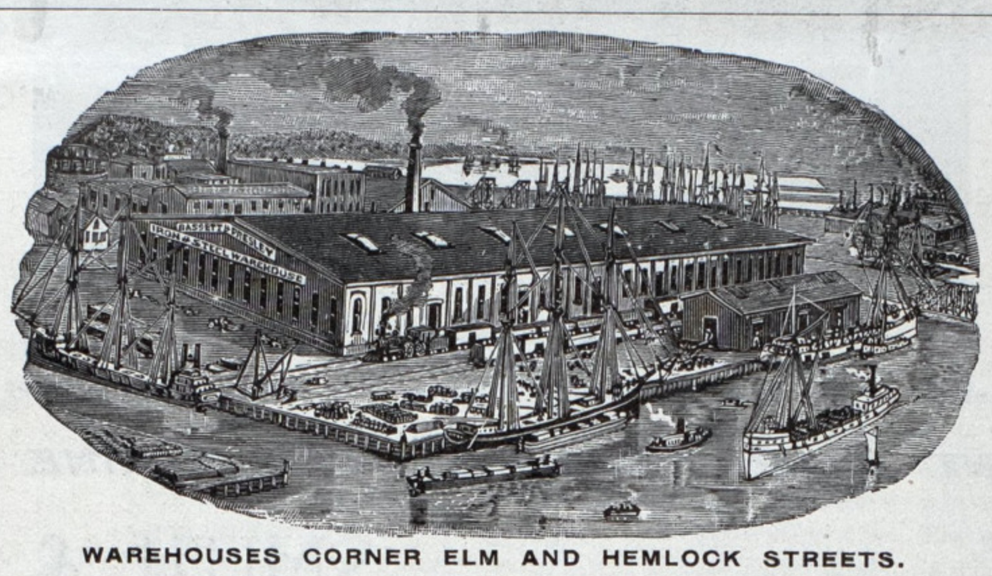

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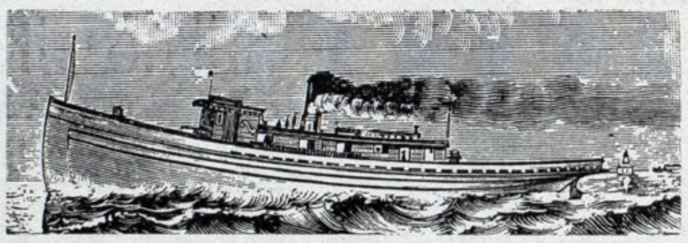

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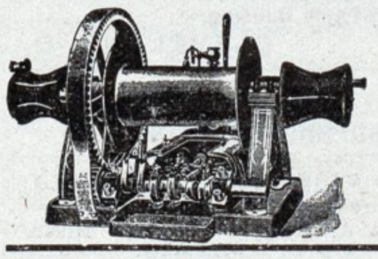

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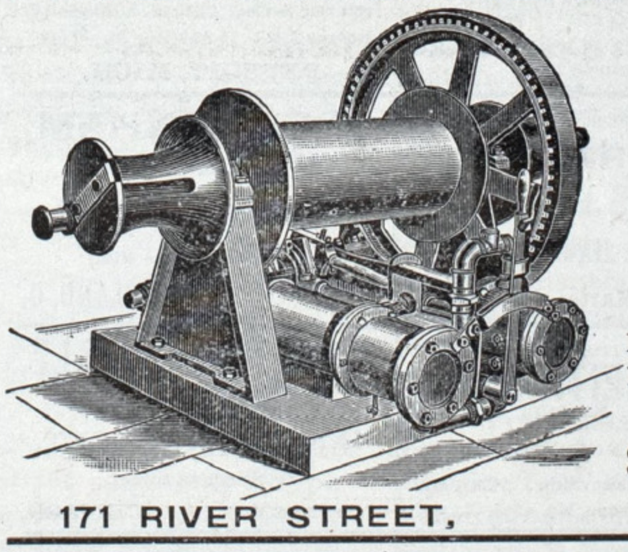

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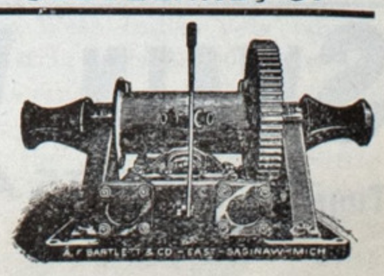

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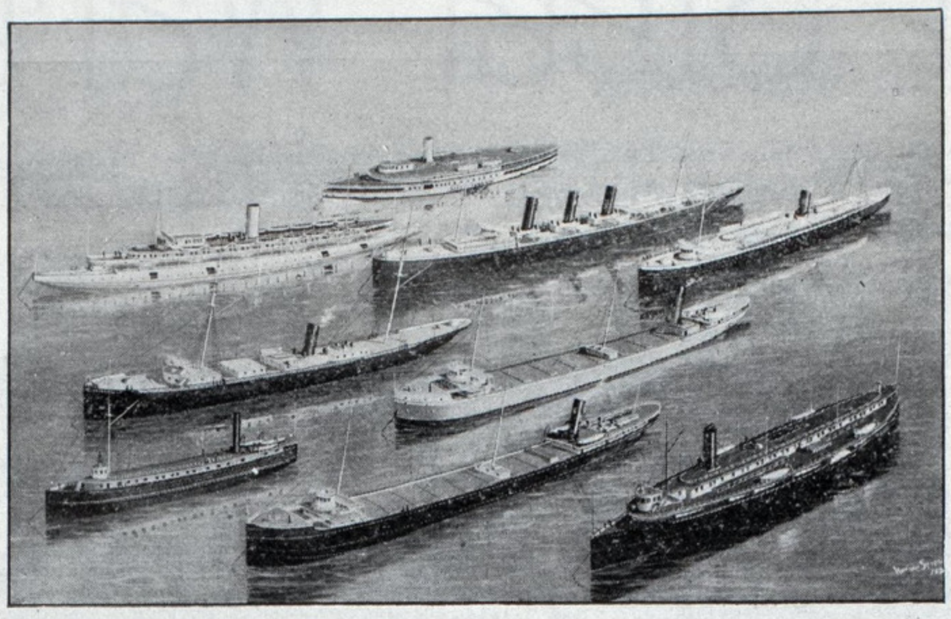

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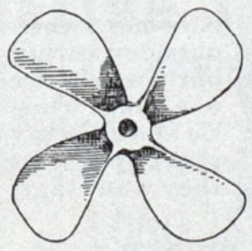

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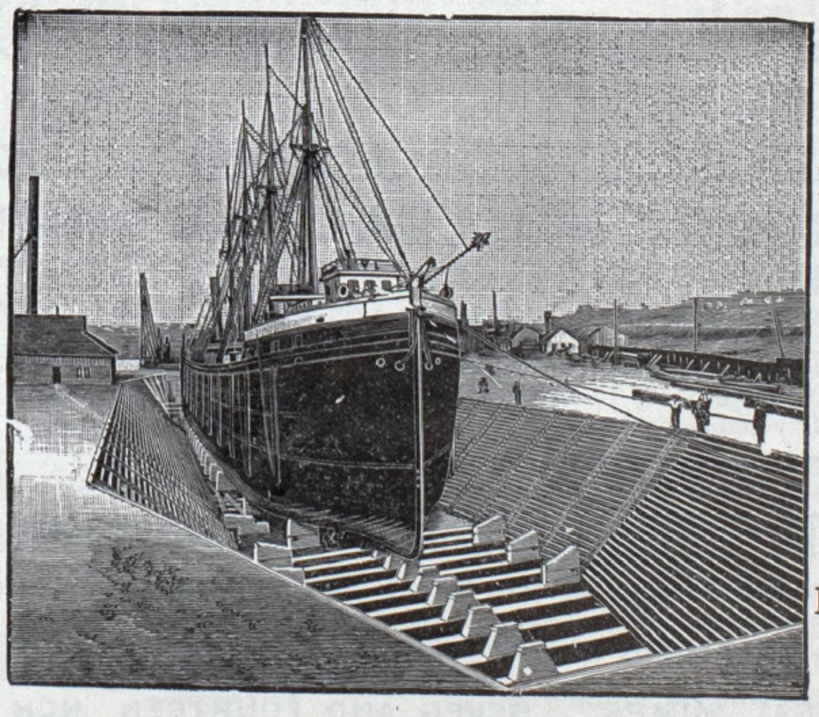

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